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VEMBER 1950

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92 ideas

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214x314 Pacemaker Crown Graphic, Ektar f4.5 etd. lens, synchro, Kalart R.F., Focuspot	39.50
2 14 x 3 14 Pacemaker, Crown Graphic, Ektar f4.5 ctd. lens, synchro, Meyer B.F., bracket	134.50
214x314 Pacemaker Crown Graphic, Ektar f4.5 ctd. lens	97.50
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2 14x3 14 Anniversary Speed Graphic, f4.5 Optar ctd. lens, Kalart R.F.	129.50
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214x314 Anniversary Speed Graphic, Optar f4.5	89.50
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Contax I. Carl Zeiss Sonnar f2 lens	
Contax II, Carl Zeiss Sonnar f2 lens	159.50
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De Jur 8mm Magazine f2.5 coated lens	69.50
De Jur 8mm Citation f2.5 coated lens	49.50
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#### HOME AND EDITORIAL OFFICES: TWENTY-TWO EAST TWELFTH ST., CINCINNATI 10, OHIO

Modern Photography (combined with Minicam Photography) (title reg. U. S. Pat. Off.) Publication Office, 408 N. Wesley Ave., Mt. Morris, Illinois. Editorial and Executive Office, 22 East 12th St., Cincinnati, Ohio. Published monthly by the Automobile Digest Publishing Corp. Yearly subscription, 33.50 in U.S.A. and possessions, Canada, and countries in Pan-American Postal Union. Elsewhere, \$4.50. Single copies, 35c. Canada, 35c. Eastern advertising office: Everett Gellert, 251 Fourth Avenue, New York City, phone Oregon 3-9300, Midwest advertising office: Bernard A. Rosenthal, 333 No. Michigana, Chicago, Ill., phone Andover 3-732. West Coast advertising office: Edmund J. Kerr., 6605 Hollywood Blvd., Los Angeles 28, California, phone Hempstead 3171. Entered second class matter at the Post Office at Mt. Morris, Illinois, under the Act of March 3, 1879, Additional second class permit entered at the Post Office, Cincinnati, Ohio.

CONTRIBUTIONS. Contributions will be handled with reasonable care, but Modern Photography assumes no responsibility for their safety. Copy and photographs are subject to such adaptations as are necessary to meet the publisher's requirements. Self-addressed, stamped envelopes must accompany material to be returned.

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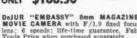
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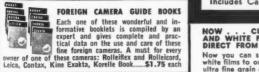
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All steel rigid non-warp frame with glass. May be used ever and ever again—simply snap assembly.

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#### coffee break with the editors

#### Modern Moves to New York

By the time you read this, Modern's editorial offices will have been moved from Cincinnati to new offices just off Broadway in New York. It is a healthy move, made in the interests of bringing you a better magazine. Close to one of the main arteries of the photographic and publishing world, Modern will have a chance for further expansion in New York.

A new editorial staff, for the most part, will plan the editorial pages and will be guided, as always, by the letters, ideas, and contributions of the readers. If you have practical suggestions for stories that would help amateurs make better pictures, or ideas that would be of interest to all photographers, the New York welcome mate is already extended. Please make a note of *Modern's* new address: 251 Fourth Avenue, New York 10, N. Y.

#### Once Over Lightly

Axel Bahnsen, who rates somewhere in the international stratosphere when it comes to having prints accepted and hung in photographic salons, was pleased with this gag portrait one of his students made of him until he discovered that it cost him money. The lens of his Contax camera was serenely



... expensive sunlight

focusing the rays of the sun on the focal plane curtain of the camera all the time he was posing. The result? A neat hole burned through the curtain. Moral? You bet!

Remember the brief articles called Our Photographic Past which appeared in Modern a few months ago? The historical objects illustrated in these articles all came from the Alden Scott Boyer Museum in Chicago. We have learned that as a contribution

to the preservation of photographic history, Mr. Boyer has turned over his entire museum — consisting of 7,000 books on photography and countless thousands of pictures, early cameras, and rare pieces of historical apparatus to the George Eastman House in Rochester, N. Y., where it will be added to that already famous photographic museum.

#### Hideaway

Bob Landry, who was shown photographing Shelly Winters in the Eisen-



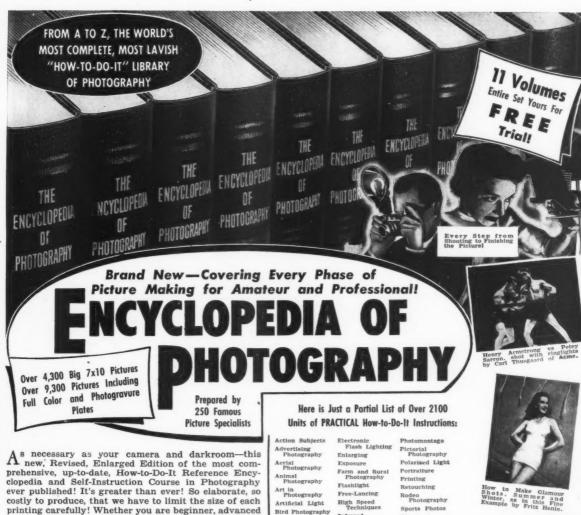
... he chose the six sexiest faces

staedt story (Sept.), corners some of Hollywood's most interesting assignments. Hedda Hopper opined in her column that Landry was "asking for trouble" when he took on the assignment of choosing the six sexiest faces in Hollywood for a magazine feature series. But Landry, a former wartime photographer (World War II, not Korea), went ahead with his controversial chore and let the chips fall where they might. He chose Susan Hayworth as the actress with the most exciting face; Jane Greer the most glamorous; Ida Lupino the most intense; Arlene Dahl the most beautiful; Dorothy McGuire the most delicate; and Ava Gardner the most sensual. While such fearlessness on Bob's part is highly commendable, it should also be noted that he has bought and paid for a secluded farm in Iowa where he could retire at a moment's notice.

#### Morris Wasn't Kidding

Many readers seemed to think that Picture Editor John Morris of Ladies'

Continued on page 92



costly to produce, that we have to limit the size of each printing carefully! Whether you are beginner, advanced amateur or professional, you will find in these books the most up-to-date answers to your questions about all branches of photography—from the planning of pic-tures to finishing! They will show you how to get more perfect results from your camera and darkroom equipment; give you thousands of new ideas that will make your photography more PLEASURABLE and more PROFITABLE!

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A story of a great new stride in photography. This photograph was reproduced directly from MR. ANSEL ADAMS' original 3½x4½ print made with Polaroid Type 41 black and white film.



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#### did you know?

technician's notes

#### Rule of Thumb for Flash

... that flashlamps never have much "depth of field." When you are photographing a scene with objects both close to and far from the camera, they must be equally lit if you want them evenly exposed. This can be accomplished by placing your flashbulb an equal distance above or to one side of them, or by illuminating the foreground and background areas with separate lamps. As a rule of thumb, remember that at twice the distance a light is only about one-quarter as bright.

E. M. K. MURRAY

#### Iodine Bleach

... that it is easy to remove an unwanted portion of an image on a print with two simple chemical solutions? To make the first solution, dissolve 2 gms of iodine in 50cc of methyl alcohol: for the second solution, dissolve 4 gms of thiocarbamide in 50cc of water. Use equal parts of the two solutions and apply locally to the unwanted portion of the print with a small brush, then immediately swab off the part of the print worked upon with a tuft of cotton soaked in methyl alcohol. Blot off the excess alcohol, and repeat the process until the undesired image is satisfactorily reduced or removed. Finally, re-fix the print in acid hypo and wash and dry in the usual way.

ARNOLD CROFT

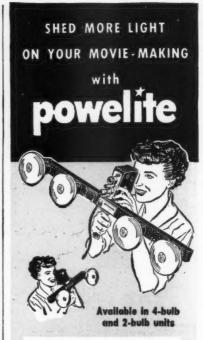
#### Natural Lighting with Flash

... that a good trick to achieve a natural lighting effect and even exposure over a large room is to hold a flashbulb high, aimed at the ceiling. This will "bounce" the light fairly evenly over all objects. If the ceiling and walls are dark colors, you will need a much bigger flashbulb or a larger diaphragm opening than if they are painted light.

E. M. K. MURRAY

#### Ortho Movie Film

. . . if you are an amateur movie film producer, and contemplate making documentary type pictures, you should look into the possibilities of using orthochromatic film? For certain types of scenes, or in reproducing scenes supposedly made about thirty or more Continued on page 78



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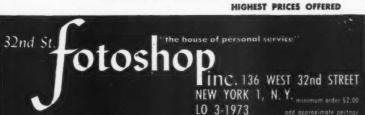
Complete with focusing reflector. For all shutters with cable release sockets. Pre-Sync, Kodak, Ciroflex Ansco Shutters; etc. Reg.: \$14.85 SALE \$11.18

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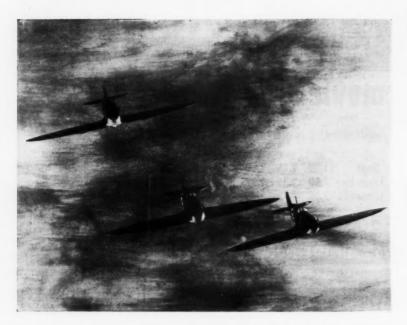
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#### amateur report



# TWO HOBBIES FOR STARTLING PICTURES

Photos and text by JOHN V. TWYMAN

It's surprising sometimes how well two hobbies can work together—especially if one of them is photography. The other can be gardening, antiques, golf, ham radio; in fact, it doesn't seem to matter much what it is, for each stimulates interest in the other.

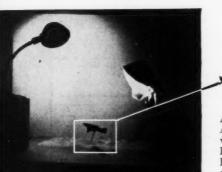
In photographing my scale-model airplanes, I have worked out several techniques for producing pictures with dramatic realism. If your second love is model airplanes, railroading, or a similar hobby, you can use some of these same methods. You'll find such tabletop photos are fun to make and show off your models to advantage. Or if your hobby interests lie in other directions, perhaps you will start looking for ways in which your camera may help them along.

Do you have a camera with groundglass focusing? For such tabletop shots it's a great help, but a roll-film camera equipped with a Proxar-type close-up lens may be used if you do your framing carefully on a piece of tracing paper before the film is inserted.

Other equipment you will need includes a tripod, a cable release, and a pair of desk or bridge lamps (the ones used for the accompanying illustrations totalled only 100 watts). These should be covered with white cloth for diffusion and to eliminate harsh shadows.

In arranging your models for a realistic picture, you have a wide choice of foreground and background material. The tabletop itself, if free of grain and varnished, will photograph nicely as wet concrete. Large sheets of fine sandpaper appear as dry concrete, and sand itself, spread evenly, looks like grass. Chances are the background will be set far enough back to be out of focus anyway and a plain white board will then suffice. A cut-out skyline of hills or buildings is also very effective, and adds convincing perspective to the set; or a cloudy sky may be made by rubbing finely ground pencil lead over a board.

How about having a plane just taking off, climbing? This may be done with the aid of a short length of baling wire rigid enough to support the model, which is attached on one end with Plasticine or similar substance. The wire is pushed into a





A HURRICANE, airborne over a North African landing strip, was photographed with the setup at left and above. One light is elevated and undiffused to simulate the sun. The supporting wire and shadow are hidden in the picture, left.





piece of wood, which is clamped to the table and covered with sand, or is merely stuck into the table if permissible. The lights are arranged so that soft shadows fall naturally on the "ground." The shadow of the wire should either fall in an unimportant place or disappear entirely. Then the camera is set at an angle to place the model plane between the camera and the wire, making the wire invisible to the lens. Adjust the lens diaphragm to F:22, for enough depth of field to include the entire model, and make an exposure of about 25 seconds on film with a speed rating of 25. Later you can adjust this basic exposure to meet your own needs.

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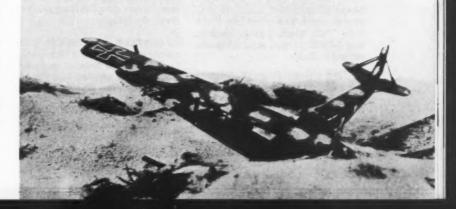
The next step from ground and take-off is flight. Any number of planes flying may be arranged, but it is best to have them fairly close together and nearly equidistant from the lens. Use the pencil-lead background paper tacked to a board into which you can jab short lengths of baling wire. Support your models on the ends of these wires, choose your camera angle so that the wires are hidden, arrange your diffused lights to kill tell-tale shadows, and shoot away.

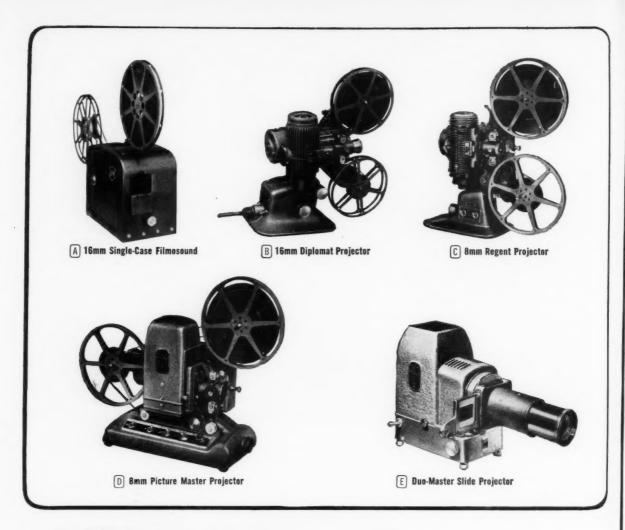
The shot (page 14) of the three Spitfires approaching head-on was Continued on page 92 A LUFTWAFFE pilot leaving his burning plane, above, was staged outdoors. The plane, made of card, was soaked in kerosene and set afire. It was supported by a 6' pole stuck through the hedge in the background. A fan, blowing from the right, extinguished the flame and blew the smoke back realistically. BELOW: An elderly Fleet Air Arm two-seater was pictured with the setup at left. The model is supported on a wire piercing the pencilled background. The wad of cotton batting is model insurance.





AN UNLUCKY Gotha, shot down along the East coast of England during the daylight raids of 1917, is realistically portrayed below. A model had to be sacrificed for this scene. Sand and a bit of grass became the dunes and the blank North Sea sky was merely a white sheet of paper. The usual diffused desk lamps were again used.





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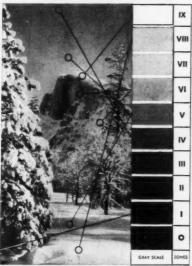
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In this typical chart, Adams identifies 8 different Zones of Brightness, No less than 6 of them require controlled, logical PRE-planning, NOT just at one step-but working back, from the final concept, through picture proportion, degree of enlargement, paper contrast, handling of the negative (development depends on exposure), lighting, etc., all the way to film selection, camera setting. How wo.ld YOU classify these brightness Zones? What logical controls, in printing, negative development, exposure, would YOU have prepared forin advance? Or would you have done as 99 out of 100 photographers still do-start at the WRONG end, hit-or-miss, and then fuss with endless, disappointing tricks and manipulations?

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Dan S. Myers and Dell Evans of Pacific Photo Products, Los Angeles, who do special camera work have devised a neat shutter cocking lever on the Automatic Rolleiflex for photographers who want a planned double



Dan Myers de-foolproofing a Rollei Photo by Dick Farrell

exposure. Under the regular film-winding and cocking lever is another lever which inside the camera bypasses the film transport mechanism and cocks the shutter directly. It does not increase service difficulties and in no way affects normal operation. For professional photographers and those who have use for double exposures, this device (it costs \$35) makes it possible to get unusual effects. At the same time, however, it is a substitute for the fool-proof, built-in feature of the Rollei-double exposure preventionwhich the same photographers paid a lot of money for at the time they bought their cameras!

The Photo Workshop, a group of 45 amateur and professional photographers in Los Angeles with some interesting ideas and considerable enthusiasm are circumnavigating the usual camera club formula. So far their activities have excluded the techniques and pictures so dear to the hearts of the many pictorialist clubs. The Workshop members have their club and darkrooms in a small studio which belonged to a sculptor. Photographers like Phil Stern, Julius Shulman and Weegee lead discussions on meeting nights and instead of contests the club devises group projects which sometimes run as long as four months. All pictures are placed on display for criticism and discussion at the deadline of the project. Competition in the usual sense is out since each photographer is encouraged toward the treatments

which give him the most satisfaction. Experimental movies are part of the group's work also, and on completion, the films are exhibited both to club members and the general public. Membership has been climbing steadily and their provocative photographs are ample evidence that club photography can offer both challenge and reward to members with imagination and initiative.

Fred Swartz, Los Angeles free-lancer, saved himself a \$5 parking ticket recently by quick thinking. Parked downtown off Wilshire Blvd. on an assignment, he came back to his car to find he had been given a ticket. There were no signs in the block which said that parking was prohibited. Boiling mad, he set up his camera and made an overall shot of the whole block. In court, the judge looked admiringly at the 11x14 print; told Fred that the ordinance could render him guilty, sign or no sign, but since he'd made such a valiant gesture the offense would be scratched from the books!

Florence Homolka, returning from a vear of exciting camera wanderings in Italy, France and much of Europe



Brassai greets friends Photo by Florence Homolka

tells of the interesting picture series she was able to make of Brassai in Paris one afternoon as she came upon him seated greeting passing friends outside a theater. Brassai was doing a photographic set for the ballet theater using large backdrops reticulated for dramatic textures. Mrs. Homolka did the programs for the producer at the same theater, an old friend, Boris Continued on page 94 IT'S HERE!

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- · Built-in flash synchronizer.
- · Eye-level view finder
- · Depth-of-focus table on shutter.
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Kalart Rangefinder	184.50
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Compur Shutter, Meyer Rangefinder	79.50
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#### 16 MM

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#### photo markets

Two New Contests

The 1950 Graflex Photo Contest offering amateur and professional photographers 62 cash prizes totalling \$5,000 opens October 1st. All pictures made since December 1, 1949 with a Graphic, Graflex, Crown or Century camera by photographers anywhere in the world will be eligible. There is no limitation on subject matter and photographers will be divided into three classes according to experience: Teen-agers, Non-professionals and Professionals. The color division will be open to all three classes. Each of the three main classes will be divided into two sections: Action and Feature. In addition to the cash prizes, one lucky contestant will be selected for a unique award: the opportunity to spend one week in New York City working with leading press photographers, as the guest of Graflex. Full details on this award will be announced next month. Contestants may submit as many as ten black-andwhites and five color entries. The original negative must have been exposed by the contestant but he is not required to do his own processing. Negatives or prize winning pictures will remain the property of the contestant. Graflex requires only a careful copy negative and non-exclusive permission to reproduce the picture in advertising and publicity material. Official contest rules are available from all Graflex dealers or by mail from Graflex, Inc., Rochester 8, New York. The contest closes December 1,

The National Press Photographers' Association at its recent annual convention voted to join with the National Fire Protection Association in sponsoring an annual contest to pick The Fire Photo of the Year." A top prize of \$250 will be awarded plus \$150 more in prize money for "runners up." The contest (for black-andwhites only) is open to all press photographers in the United States and Canada for fire photographs taken in the current calendar year ending December 31. The contest will close January 31, 1951. As this is strictly a fire photo contest, the point system devised by the NPPA will be used in

Continued on page 98

#### Minifilm COMBATS PR ICE RISES!!

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# RODIN'S "KISS" IN MONTAGE

One of the axioms of photography to which I subscribe heartily is that a good picture is the result of a good idea.

Some time ago, Life's editors gave me an experimental assignment that illustrates this point. The editors wanted to know if Rodin's statue, The Kiss, could be photographed in such a way as to make the figures appear to be the living, breathing human beings Rodin worked with.

I had a feeling that it could be done successfully only if the figures were reasonably correct in anatomical detail. I also felt that I would need complete control over the lighting conditions. For this reason and to avoid interruption, I decided to work only at night.

The statue is on display in the Rodin





Bernard Hoffman's sequence



technique of Rodin's great sculpture

BY LIFE PHOTOGRAPHER, BERNARD HOFFMAN © TIME, INC.







#### Six details of the sculpture

Museum in Philadelphia, so all equipment had to be transported there. For maximum concontrol of light, I took along four 750-watt spotlights, two 2,500-watt floods, six gobos (adjustable screens to eliminate unwanted light), two baby spots, an 11-foot adjustable Saltzman camera stand with a four-foot extension and a strong assistant. I used a 4x5 Graphic View Camera and Plus-X film packs.

The assignment was supposed to take two nights. I spent the first three hours playing a spotlight over the statue to discover form and detail. During this inspection I discovered a way to give the chisel marks an effect of skin texture.

I was amazed at the amount and perfection of anatomical detail in Rodin's masterpiece. It seemed that every time I made one picture I discovered four others. I took 147 pictures the first night.

Before long, I had the strange feeling that Rodin, in creating *The Kiss*, had attempted to free these two beautiful people from a solid block of marble. It was a very powerful emotional reaction and became my own theme in trying to interpret the statue with my camera.

For most of the pictures, I used a basic light pattern (shown in the diagram on page 84), which, of course, was subject to variation. Two 1,500-watt spots, one to the left and Continued on page 82







### SLEIGHT OF HAND

Cropping and dodging are two aces up your sleeve when you have enlarging to do

TEXT AND PHOTOS BY RUSS SCOTT





While great pictures are usually made in the camera, lesser ones more often are made in the darkroom. Here a skilled printmaker can transform a handful of snapshots into several minor triumphs—all with a twist of the wrist and a dash of applied psychology.

The tricks he uses are basically few, simple to learn, and with frequent practice, soon will become second nature to you. For a small investment in 8x10 paper, you can see for yourself how they work.

After you've found in your files a negative you think may have possibilities, the first important step is cropping. At this point it pays off in good pictures to be a tough, uncompromising critic: slice away everything that isn't essential to your picture, limit yourself to the center of interest and only those few details of foreground and background that actually assist in putting across the picture idea.

Perhaps you already have small contact prints in your negative file which will help you visualize the cropping for a picture. Or you may do the job right on the enlarger easel. In either case, don't overlook the possibilities of tilting the picture for added movement, or of making effective vertical or horizontal panels. You may find that a pair of L-shaped pieces



of stiff cardboard make a useful tool for this work.

The next step is the corrective dodging you will use while the paper is being exposed. Briefly this consists of holding back light from thin portions of the negative, then allowing additional "burning-in" time for the too-dense areas. In the finished print this two-fold control can produce heightened shadow detail, improved texture, and clear, sparkling highlights.

Careful hand work on the negative with dye and reducer might achieve the same result, but print dodging is simpler, more fun, and allows a freedom of control. If you can keep a youngster amused with shadow pictures on the wall, then your fingers are probably nimble enough for the task. If not, using your hands and fingers for print dodging may require some practice, but it's a sure cure for fumbling around on the darkroom floor for that "piece-of-card-board-with-a-hole-in-the-center."

So far you have been concerned mostly with correcting the faults in your negative: the framing (by cropping) and the lighting (by dodging). Now it's time to work an improvement of your own.

Any light area in a picture will catch the viewer's eye; dark border areas will keep his eye from wandering. Thus he is compelled to look by the light part, while his interest is fenced-in by the dark. Starting from this well-known fact, it becomes a simple matter to apply it to your printmaking.

After normal exposure has been given the print Continued on page 96

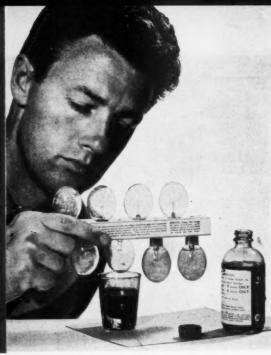


HERE ARE TWO pairs of "before-and-after" prints that demonstrate the effectiveness of a little darkroom magic. Both gained from cropping away unessentials, plus dodging for added dramatic punch. In the fire scene, opposite page, note the use of edge burning to center interest in the print.





# FLASH WILL SAVE THE DAY





ALTHOUGH I often have used blue flash in sunlight with color film, it was only recently that I became aware of its value when used on overcast or foggy days. After losing several commercial jobs as the result of waiting for cold, smoggy weather to clear, I decided to conduct some experiments, using flash as my main light source with only the gray and moody sky for the background. Blue flash was used for color shots, and clear flash was used for black-and-whites. Even on dismal days when fog obscured the horizon, the results were not only satisfactory, but were in some cases even more interesting than they would have been in sunlight.

Nowadays I carry flash regardless of the weather, for while flash may not be essential when the sun is strong, it does give you control over the shadows no matter which way your subject is facing. Instead of the harsh black

THESE PICTURES WERE MADE BY SUNLIGHT ALONE. The sun was in a peek-a-boo mood, however, as can be seen by the sky and shadows. These changes in light required constant meter checking and corresponding changes in exposures. ABOVE, the author leaves clear bulbs in their cardboard container while dipping them in blue dye for outdoor color by flash. The container helps keep them from touching anything while they dry.







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#### Peter Gowland tells how to substitute

#### flash for sunlight when the clouds roll in

shadows normally cast by a brilliant sun, one attains soft, luminous shadows which have been lighted or "filled-in" by flash. Or, if so desired, the flash itself can be used as the main illumination source.

A clear bulb is preferable to a blue bulb when making outdoor shots on black-and-white film. In addition to being cheaper to use, it gives more light than does a blue bulb. When using color film (Ektachrome, Kodachrome, and Ansco Color), however, a blue flash is required because the blue coating changes the color temperature of the light to simulate sunlight. In other words, sunlight is blue and the light given off by a clear bulb is yellow. Thus if a subject is photographed in color with a clear bulb, the background will generally appear natural—but the skin tones will tend to appear too orange. The blue bulb, on the other hand, furnishes a light that duplicates sunlight on the flesh tones.

For both black-and-white and color film, the procedure with flash outdoors is simply a matter of finding the subject to camera distance which, at a given diaphragm opening or F stop, will provide a balance between flash illumination and sunlight. If the flash is too close to the subject, the background will be dark and the subject will be burned out. If the flash is used too far away from the subject, the main images will be underexposed.

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To arrive at the proper subject-to-flash-bulb distance, a "guide number" is printed on each package of flash bulbs—and oftentimes on a slip of paper



accompanying each package of film. The guide number is the number into which you divide the distance of the lamp to the subject in order to arrive at the correct diaphragm opening or F stop for a picture. Supposing, for example, that the flash bulbs you use have a guide number of 50 when used at a shutter speed of 1/25 second, and that the distance between the flash and the subject you want to photograph will be six feet. Fifty divided by six is eight-plus. Thus the correct diaphragm opening for you to use is F:8, or slightly over.

Guide numbers will vary in accordance with the shutter speed to be used; this information is also on

THESE PICTURES WERE MADE ON A CLOUDY DAY WITH FLASH. Gowland used a Buckley portable strobe light in making these Rolleiflex studies of dancer Joan Larkin. (Note the black hood on the camera which keeps out stray light and makes focusing easier). With strobe, his average exposure at a camera-to-subject distance of 8 feet was 1/100th second at F:8. Using a #5 clear flash bulb, approximately the same results could have been obtained with 1/100th second, F:8, at 12 feet.





the package which contains the bulbs. My experience has been that it is a good idea to test all the data given on the bulb packages against my own camera, reflector, shutter speeds, and various other pieces of essential equipment. I've also found that once I arrive at a standard shooting distance, shutter speed, and type of bulb, it is a good idea to stick to these as much as possible for consistent results.

The technique of using flash on cloudy, foggy days is the same as the technique used on sunny days, providing the flash is your main light source. The only noticeable difference is the background which will require additional exposure on cloudy days. This applies to color as well as to black-and-whites. The flash guide number determines the diaphragm opening for the subject, and a meter reading determines the shutter speed for the background. The exposure for the background doesn't have to be increased if the subject is placed against a white sky. In shooting color, I go pretty much by the chart below, using a 7-inch Heiland reflector on my flash gun.

#### EXPOSURE FOR COLOR

(Ektachrome, Kodachrome and Ansco Color)

Flash to bulb distance	Fog background 1/10th sec.	Sun background 1/25 sec.	Bulb
6 ft.	f.9	f.9	5-B
8½ ft.	f.9	f.9	22-B

By using at least a four foot cord on the flash gun, you can move the camera and still keep the light the same distance from the subject. You can determine this by stretching your arms between the flash and the subject, or if the flash is on the camera you can check your foot scale. Another way is to have a string with a knot tied at every foot. Whichever method you prefer, keeping distances the same will help keep the results the same.

I usually keep the flash on or near the camera because I like the flat lighting it gives. This comes very close to the type of lighting used by George Petty for his "Petty Girls" and is the most flattering type in my opinion.

Exposure for black-and-whites with flash are made the same way. Find your best distance and keep using it for consistent results. Black-and-white film is about three and one-half times faster than color film. Here is a chart I have found useful for my combination of Super XX, fine grain development, and a No. 5 clear flash bulb in seven-inch reflector.

#### BLACK-AND-WHITE WITH CLEAR FLASH

Distance	Shutter	Sun with K2	Fog (no filter)
12 ft.	1/100th	f.8	f.8

Although one bulb will work as well as another once you know its capabilities, I personally prefer the GE No. 5 which I blue-dip myself because I can control the depth of blue. This is done by carefully

timing the bulb in the blue liquid. Usually it is about 5 seconds but in cold weather this may vary to double the time. Through experience it is easy to judge the difference in density. A more sure way is to keep a bulb of the correct density handy-for comparison. I've found that "Jen-dip" comes the closest to duplicating sunlight. Apart from the fact that you can control the amount of blue, there is a financial saving to dipping your own bulbs.

Since changing the shutter speed with flash changes the guide number, it is better to stick to the same shutter speeds. With strobe this is no problem because the duration of flash (1/2000 or 1/5000 sec.) cannot be changed with shutter changes. Thus you do not have to worry about moving in close to the subject with the flash as long as you compensate with smaller lens openings and longer shutter speeds.

I do not use a filter on strobe for color because the color temperature of strobe light is very close to that of natural daylight, but slightly more blue. Since the strobe can be used as a fill-in and not as a main light source this blueness is natural to the shadow areas of a subject. Because strobe has such a short duration and does not give as much light as a flash-bulb, I prefer to use blue flash bulbs with color film. My particular strobe as a fill-in for sunlight, is only practical on color film, at a distance up to five feet at F:6.3, but can be used up to eight feet with black-and-white at F:11. There is no reason to use a filter on the strobe when shooting black and white film. Here is a chart I use for a Rollei, Super XX film, fine grain developer, and Buckley strobe.

#### BLACK-AND-WHITE WITH STROBE

Distance	F:Stop	Sun with K2	Fog (no filter)
4 ft.	f.16	1/50th sec.	1/25th
6 ft.	f.11	1/100th sec.	1/50th
8 ft.	f.8	1/250th sec.	1/100th

In shooting black-and-whites on an especially dull day with strobe, I usually expose at about 1/100th second for the background at about F:8. (Subject 8 feet from the camera.) This is actually an allowance of one full diaphragm stop plus a one notch slower shutter speed than I would normally use in clearer weather.

Since not much can be done in the way of correcting a white sky on black and white film, I use no filter. On the color the gloom can be brightened somewhat by adding a straw-colored CC-13 filter or a CC-14 or CC-15 depending on the amount of yellow you want. Other filters that do somewhat the same job are Wratten 1-A and UV series 15, 16, and 17. Some of these have extra exposure factors. This information is contained in your package of film.

Ektachrome, Kodachrome and Ansco color are rated closely in speed; however there is a definite difference in color tones. Your choice of film depends on which color tones you personally prefer.

THESE TWO PICTURES were made on the same day, and at the same exposures. The upper picture was made during a morning fog, using a CC-13 filter, Ektachrome daylight film, and an exposure of 1/25 second at F:9. Since the subject was posed against a white sky, no increase in exposure was necessary for the background. When the sky cleared in early afternoon, a second picture was made at the same exposure. In each case, a #5 blue-flash bulb was used at a distance of five feet from the subject. The reason for using a blue flash bulb is that it renders skin tones more nearly the way they appear to the eye in natural sunlight; a clear flash bulb, on the other hand, produces a yellow light which-unless it is corrected by a blue gelatin filter over the bulbrenders skin tones too orange.



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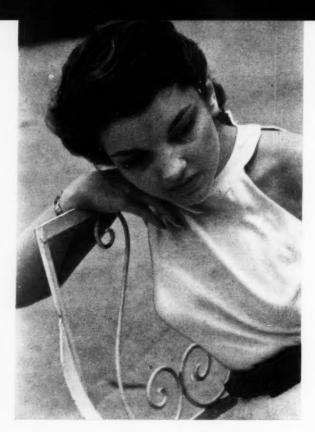
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Use of a tripod is important on closeups where the softening effect of camera movement is exaggerated by the large image size. Leica on tripod, 99mm Elmar, F:6.3 at 1/60, on Kodachrome. An old piece of beaded movie screen tacked on a  $2\times3$  ft. frame was used as a reflector on the shadow side.



TRANSPARENCIES BY JOE MUNROE



Often the subject will be more relaxed when the camera is a good distance away. The 90mm lens on 35mm film size has the long focus effect, but plenty of speed and depth of field for color work. Notice how the smooth, redoclored cement acts as a reflector giving fine shadow detail. Leica 90mm Elmar, F:6.3 at a 60th, on tripod, Kodachrome.

This shot was made with Rolleiflex on tripod using indirect sunlight on a porch that was open on one side. Ektachrome, about F:6.3 at a 10th. Here the tripod is a must. One might "get by" with bracing against the wall, holding the breath, or some similar tactic; but having an easy-adjusting tripod handy is the best insurance when slow shutter speeds are needed.

# THREE WAYS TO IMPROVE COLOR SLIDES

The extra sharpness from using a tripod, improved portrait perspective from long-focus lenses, and better balance from using reflected light for better exposure balance, all add up to a real bonus when shooting color slides.

A peek at most any commercial portrait photographer's camera will reveal they nearly all use a longer than normal lens, and have been since portraits began. They like its ability to "see around" the subject, giving a feeling of roundness and solidity to the finished print image.

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Also, the subject is usually more casual and relaxed when the working distance between camera and sitter is increased. With a longer-than-normal lens this distance is relatively greater for the sameimage size on the negative.

The commercial man in return for ease in retouching and quantity production handling, is willing to put up with the slow speed and small depth of field usually synonymous with portrait lenses designed for the 8x10 and 5x7 studio cameras. When working with 35mm cameras, however, the long-focus advantages can be obtained with lenses of 80 to 90mm (around 4 in.) focal length. These lenses usually range in speed from F:4 to F:1.5 and have excellent depth of field compared to their 8, 10, 12, and 14 in. equivalents on the studio camera.

Many photographers feel the 80 to 90mm F:4 lenses represent the ideal combination of speed, depth, and reasonable price. When money is no object the F:1.5's in these focal lengths may be preferable. The 135mm lenses give a bigger image at the same working distance, and have similar speed ratings; but have less depth of field and make a heavier and more cumbersome outfit—especially when working handheld.

HERE IS a 35mm camera (in this case a Leica) equipped for making the most out of color film. A firm tripod is topped with a quick swivel head. The camera has been given the "reach" of a much larger one with a 90mm lens.

There are also "auxiliary telephoto" lenses made to slip over a normal lense to increase its working focal length when separate interchangeable lenses are not mechanically or financially possible.

As fast lenses and films become more widely used the tripod spends more time in the closet. It's well to remember, however, that color is usually shot at slow speeds, and very few photographers can do a Gibraltar consistently at less than 1/100th of a sec. An article in the *Leica Magazine*, summer '49, pg. 28, concluded that, even at 1/100th sec., the average amount of handheld camera movement causes blurring greater than the effect of average grain or any lack of lens resolving power.

There are a lot of tricks to steady the hand such as putting tension against a neck strap, leaning against a wall, holding one's breath, resting the camera on a table or chair top, or sitting on the floor bracing the

Continued on page 96



### That extra room can be put to use

### BUILD A PERMANENT

What size should a permanent darkroom be? There is no hard and fast rule. Up to a certain point where too much energy is consumed walking back and forth, the more room you have, the better. The sink can seldom be too long and very few darkrooms can boast an excess of counter or storage space. Preferably, the room should not be smaller than 5 x 6 feet and except for special requirements it need not be larger than 10 x 12 feet. The space you have available will probably dictate the size of your darkroom. If that space seems rather limited, don't become too concerned about it. Mountains of excellent work have come out of darkrooms built into 3 x 4 foot clothes closets!

#### Arrangement

A really efficient darkroom has two sharply defined work units—a "dry bench" and a "wet unit."

Sensitized material, enlargers, printers, mounting materials, and the like are used on the dry bench. The wet unit includes the sink, a counter for mixing and handling chemicals, and storage space for chemicals and processing solutions.

If your room is 6 or more feet wide, you will probably find it best to have a center aisle the length of the room, with the sink and chemical storage on one side and all of the "dry equipment and supplies" on the other. If you work alone, you will find a 24-inch aisle is about right. Two people require almost twice this much space if they are to avoid bumping each other at frequent intervals. An aisle wider than 5 feet is a waste of space unless your poker club meets here.

Whatever your plan, try to organize it so that one person can work efficiently with waste motion reduced to a minimum while two or more can work

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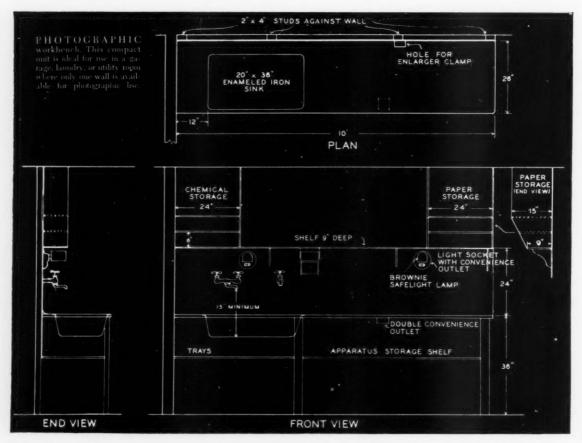
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### DARKROOM

BY C. A. KINSLEY

Eastman Kodak Company



BUILT INTO A CORNER, this darkroom arrangement makes use of 6 x 8 feet of floor space. A darkroom this size provides ample storage space for materials as well as all equipment normally used for developing, printing, and enlarging. If this corner had been enclosed to make a four-walled darkroom 6 x 8 feet in size, the sink would have been made twice as long, and an extra counter would have been installed. Notice the method of storing graduates in an inverted position in racks built above the sink.

together without mutual interference. The cooperative aspect of photographic work, which makes it a socially enjoyable pastime, is often neglected because the builder often considers his darkroom a one-man proposition. Loosen up a little and let your wife or chum in—you may be pleasantly surprised at how much fun it can be.

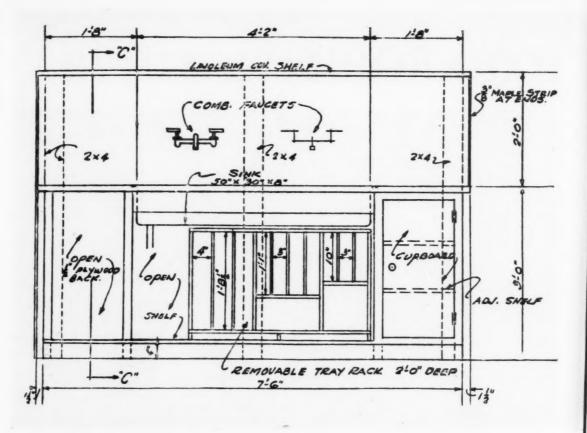
#### General Construction

If you have built or helped build your own home, you will have no difficulty in constructing a darkroom. If, however, you have had no experience in carpentry, it might be well to look over several good books on how to build a house. From these you will pick up enough information to simplify your task. Of course, if you're not concerned about keep-

ing costs at the minimum, your carpenter can do all the construction for you from the accompanying illustrations.

If only a small closet is available, the problem becomes one of utilizing every inch of space to the best advantage. The detailed arrangements of the room will depend on the shape and dimensions of the particular closet available. In general, shelves and cupboards must of necessity be kept narrow and be placed along 2 adjacent walls only. A working area for the operator must be left nearest the door opening.

To support the processing trays at a convenient height, a shelf or bench should be installed along one side of the room about 36 inches from the floor; it can be made just wide enough to take the trays.



A second narrower shelf to hold bottles of solution should be installed about 2 feet above the first one. Another shelf or work space along the other wall can then be kept dry to provide space for handling film and paper and for the enlarger or printer. Shelves and cupboards can be built below these two work units.

The tray shelf should be covered with linoleum extending part way up the wall, waxed and rubbed, or given several coats of moisture-resistant paint. The floor should have several coats of wax, renewed when necessary so that spilled solutions can be wiped up without damage.

Such a room will not have running water, but this is not too inconvenient if there is a bathroom or kitchen sink nearby to which the negatives and prints can be taken for washing. It is quite necessary, however, that the room have electricity available. If there is no light socket in the room, it will usually be comparatively easy and inexpensive to have one or two outlets installed. It is desirable to have one outlet in the ceiling for the white light and a double convenience outlet on the wall above the bench into which the safelight and the enlarger or printer can be plugged. All wiring should conform to the electrical wiring code, since the working conditions in a darkroom make it undesirable to have any poten-

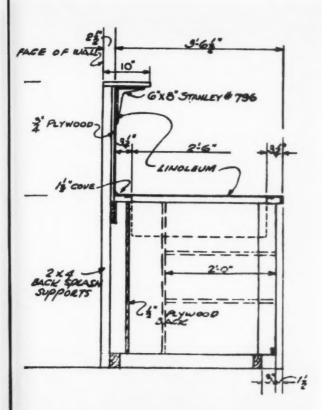
tially dangerous makeshift electrical connections.

Where a larger area is to be used, such as a portion of the basement, the construction is considerably more extensive but not difficult. If a corner of the basement can be used, you will need to build only two walls. Avoid including a window—you will find it easier to make the room light-tight. The studding is usually 2 x 4-inch, although if no extremely heavy equipment is to be mounted on the wall, 2 x 2-inch studding is perfectly satisfactory. In a 6 x 8-foot room, with 16-inch centers, you may save 6 or 8 dollars this way on the two walls.

The studding can be covered with any type of wallboard or plywood. This provides a smooth back surface, with room behind it for the plumbing and electrical connections. The walls should be painted for improved appearance and easier cleaning. Any color will do, with the lighter tints preferred. The area around the enlarger is sometimes painted dark to kill reflections.

The counters, shelves, and cupboards can be as elaborate as you wish. If you wish to keep the initial cost as low as possible, build only the working tables, sink unit, and a minimum of shelving. Racks and cupboards can be added later. Used lumber can be used to further reduce the cost.

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WATER running into a large tray, above, provides a temperature control for the small tray that contains developing solution. To conserve storage space, below, trays should be placed in vertical racks. The "dry shelf," bottom, should be covered with linoleum that has been made completely moisture resistant.





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## PHOTO WAGONETTE

How to build a foldaway, rollaway darkroom that will solve processing problems for apartment dwellers

ave you ever wished you could conjure up a completely equipped darkroom simply by rubbing a golden lamp? To fulfill as nearly as possible, in terms of modern magic, this secret dream of apartment dwellers and small-house owners is the purpose of Modern Photography's design for a Photowagonette.

Before drawing up plans for the "mobile darkroom" presented here, three requirements were laid
down: first, that when not in use, it must be presentable as a modern piece of furniture; second, it must
provide storage for the enlarger and nearly all of the
photographer's many items of equipment; third, and
most important, it must provide the means of getting
down to the real work of developing and printing in
a minimum amount of time.

The size of the enlarger and the amount of photographic paraphernalia usually accumulated by the advanced amateur demands a heavily constructed and rather large item of furniture. The Photowagonette is designed around a 4x5 Omega enlarger, as representative of bigger enlargers that will take all sizes of negatives from 35mm to 4x5 when provided with extra condensers and lenses. Completed, the Photowagonette takes up a space of 22 by 64 inches about the size of a sideboard.

### Mobile Darkroom In Action

Starting from this point, let's assume we have an evening of printing ahead. We roll our Photowagonette into the bathroom or kitchen if either room is large enough, or if not, perhaps into the bedroom.

The top, with a piano hinge running along the back, is thrown open. The enlarger, shown in dotted lines in its horizontal position (see page 48), is counterbalanced by two heavy coil springs and locked in this position by a spring catch. This catch (not shown) is released and the enlarger now swung into its vertical operating position indicated by solid lines. The spring catch is again used to secure the enlarger in this raised position.

Next the easel support, which also doubles as a cover for the developing trays, as shown in dotted lines, is moved into position under the enlarger head to serve as a work surface. It is secured in place by thumbscrews. The two heavy dowels that supported the enlarger in its horizontal position are moved to the upper set of support brackets and the shallow drain basin is now raised and suspended from the dowels, as shown in the drawing. This basin, formed of sheet metal, contains three 14x17" trays, for developer, short stop, and hypo.

Finally, we plug in the electric cord which connects up the enlarger, the safelight and a small bed lamp that provides white light. So far we should not have consumed more than three minutes—less time than it takes to follow the procedure on the drawings—and we now have our mobile darkroom ready for operations.

On the raised cover, mounted permanently in place, is the photo timer and, directly under the small lamp, a stainless steel wet-print viewer. Beside the timer, on the small shelf, there is space for a graduate

Text continued on page 44

FOR COMPLETE PHOTOWAGONETTE CONSTRUCTION DETAILS, TURN TO PAGE 42



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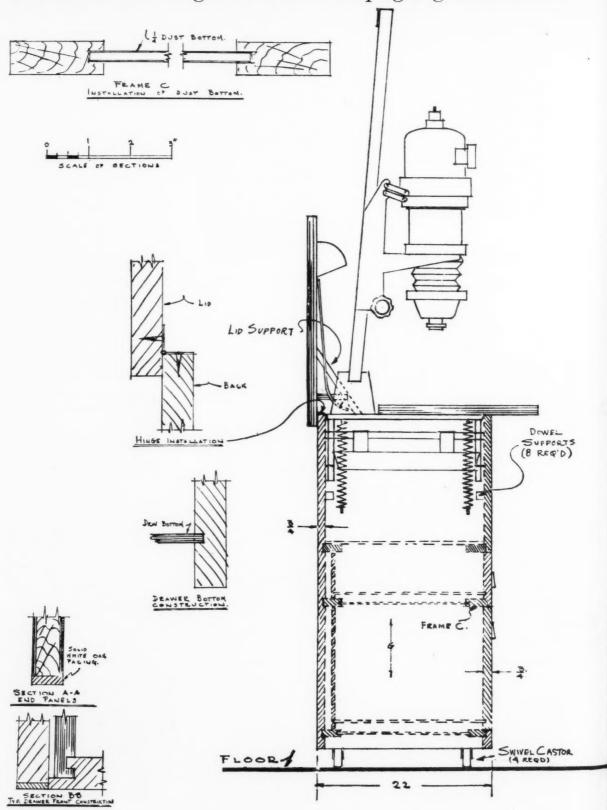
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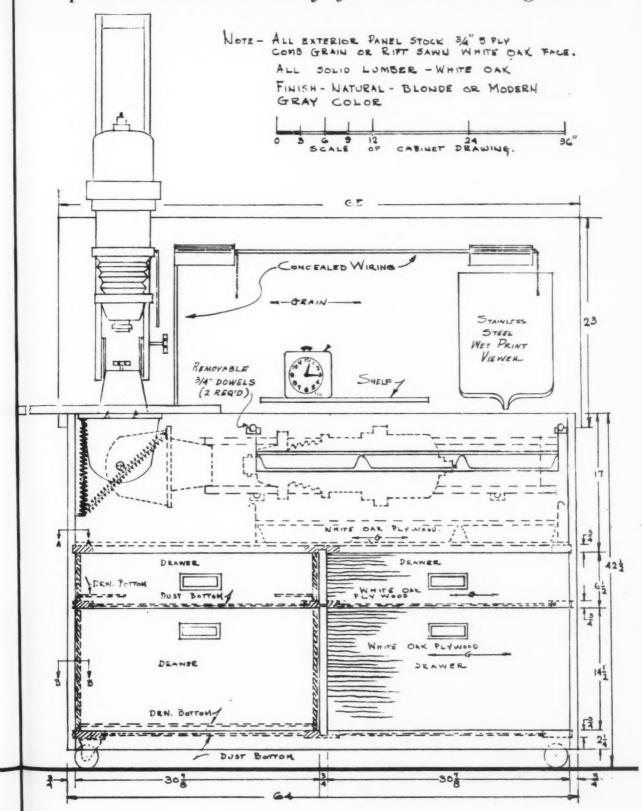
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The scale drawings on these two pages give the com-

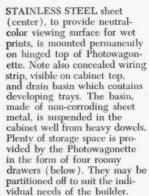


### plete construction story for the Photowagonette.



ASTOR





### BILL OF MATERIALS

1-X" x 23%" x 65%" long, Top, 5-ply rift sawn or comb grain Oak

2-%" x 21%" x 41" long, Side, same as first

1-4" x 164" x 624" long, Front, same as first

2-%" x 8" x 31%" long, Draw Front, same as first

2-4" x 164" x 314" long, Draw Front, same as first

1-4" x 16%" x 63" long, Back (apper), same as first

1-4" x 24%" x 63" long, Back (lower), 3-ply Birch

4-X" x 7" x 21" long, Draw Sides, 5-ply Birch

4-X" x 14" x 21" long, Draw Sides, 5-ply Birch

2-X" x 7" x 30" long, Draw Back, 5-ply Birch

2-X" x 14" x 30" long, Draw Back, 5-ply Birch

4-X" x 19%" x 30" long, Draw Bottom, 3-ply Birch

6-4" x 24" x 63" long, Draw Frame Rail, solid Birch

9-X" x 2X" x 16" long, Draw Frame Rail, solid Birch

4-%" x 16" x 27%", Draw Dust Bottom, Masonite

1-4" x 201/2" x 621/2, Chest Bottom, 3-ply Birch

4-4" x 2" x 20%", Draw Guide Channel, solid Birch

4-%" x 1" x 20%", Draw Guide Channel, solid Birch

1-4" x 13½" x 20½", Enlarger Base, 5-ply rift sawn or comb grain Oak

1-4" x 2012" x 40", Work Shelf & Tray Cover, 5-ply Birch

1-X" x 4" x 24", Clock Shelf, solid White Oak

4-5" long, Draw Handles, polished Brass

1-64" long, Piano Hinge, polished Brass

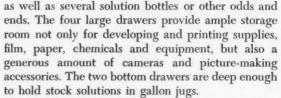
1-10" long, Lid Stop, polished Brass

1-%" x ¾" x 66", Top Facing Strip, solid White Oak

2-%" x X" x 24", Top Facing Strip, solid White Oak

2-%" x ¾" x 41", Side Facing Strip, solid White Oak





Construction procedure for the photowagonette is shown in the drawings and photos, and is also detailed step-by-step below. The only power tool actually required is an eight or ten-inch circular sawthe one used in building the photowagonette illustrated here was an Atlas 8-inch tilting arbor bench model. To eliminate an undue amount of careful hand fitting of the various pieces, however, you will find a small jointer-planer is a very handy item, while a sander will save a lot of elbow grease.

Continued on page 78

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### THE PHOTOS BELOW SHOW STEPS IN BUILDING THE CABINET

1

DADO head on saw arbor is used here to cut center grooves in frame for the vertical draw separators. This frame will fit between upper and lower drawers and has dado cuts

 $\mathbf{2}$ 

CABINET ends spaced by the throw horizontal frames are gloed and held with clamps. The frames fit into dade cuts made in the cabinet ends.



3

NEXT, vertical draw separators and opper and lower rem place to place to place to place to place. Furthern used to secure the parts Note top horizontal frame does not have plywood inserts.

4

FACING strips are cised to finish edges of the entirect top, shown here, and also the front edges of the entirect sides. The strips are glued, then changed until dec





### HERE ARE DETAILS OF DRAWER CONSTRUCTION

.

AFTER all drawer pieces have been faish out, the four drawers are assembled and gimed. Here clamps are important to josure against carping and to produce accurace, for the four drawers.



SANDING may be med on the various bussor pieces before assembly, but a final going-over will remove the success glue and give is gain-smooth finish to the deavers





INSIDE lip of each dade is next cut back to 4" to fit in thade cuts made in drawer side pieces.

See Section BB, page 42, for a detailed drawing of this drawer front construction.



# PARTTIME DARKROOM



Any room can be a darkroom with a few simple changes

BY ANDREAS FEININGER

Many amateur photographers think that expensive camera equipment and elaborate darkroom facilities are necessary to guarantee good pictures. This definitely is not true. To produce their nationally published pictures, many of our most famous photographers require only a fraction of the equipment that is owned by some amateur photographers. Ninety percent of the pictures published in *Life*, *Look*, or this magazine could have been taken with any modern camera equipped with a sharp lens.

However, taking a sharp picture is not the only aspect to be considered, for developing and printing are of equal importance to the ultimate success of the final print. And it is precisely here that many amateurs face a real problem—access to a darkroom.

### A definite way to improve one's work

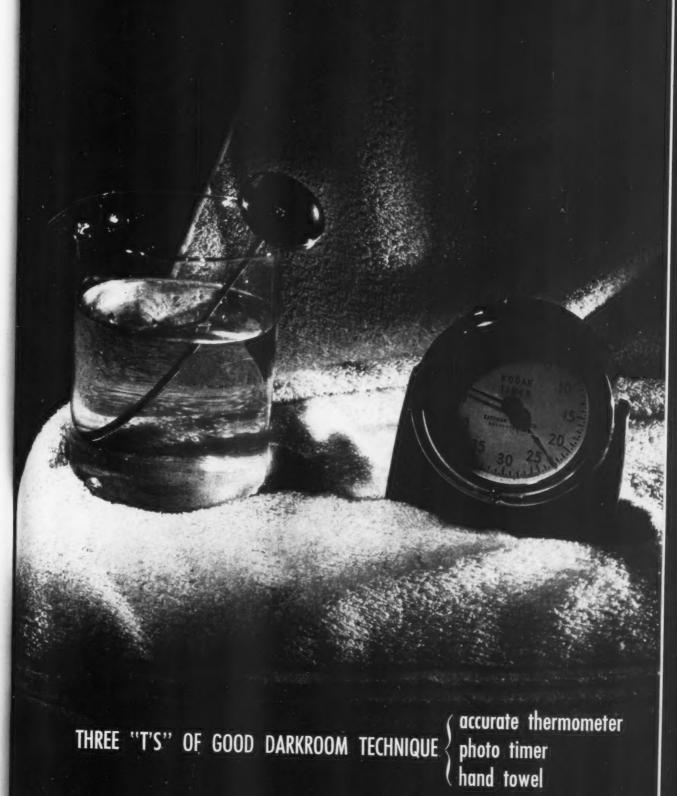
The greatest value of a darkroom is that it permits a photographer to control all the processes involved in the making of a photograph. Of course, there are drugstores to develop your film, and photo-finishers to enlarge your negatives. Such commercially finished prints naturally lack the individuality which only the photographer can provide—since he alone knows how the finished print should look. Every experienced photographer knows that it



ABOVE, the author's workroom is shown in its usual dress. To make a darkroom out of it even in daylight Feininger puts up his Masonite window seals and brings out his enlarger and developing paraphernalia. (See photo below). Here, he says, he can work at his leisure.

room

the aukroom is its usual make a out of it daylight puts up ite winnd brings arger and parapheree photo Here, he n work at





TIME-and-temperature film developing requires that solutions be at 68 degrees F. or as near as possible. Take the time to cool or warm them to the correct temperature.

is rare that a negative is so perfect that it can be printed "straight"—that it needs neither cropping nor dodging to produce the best possible print. In other words, most negatives require "individual attention" which for good reasons photo-finishers are unable to provide: as a rule, they do not know exactly how the photographer wants the picture to appear; and individual treatment according to specific instructions is too costly and upsets the routine of picture mass-production.

If no access to a darkroom is possible a photographer is deprived of the invaluable opportunity for making a PICTURE out of a picture. It often is the only reason why, despite all effort and despite costly investment, his output is consistently of mediocre quality. To be specific, this is what the "darkroom-less" photographer misses:

1—The opportunity to select and use the developer which is most suitable for each particular negative (fine-grain, ultra fine-grain, contrast increasing, contrast reducing developer, or a "dynamite developer" which will bring out the utmost in underexposed negatives).

2—The opportunity to adapt development to the particular negative (shortening or prolonging time development to decrease or increase negative contrast relative to "normal" to improve the gradation of shots taken under abnormal conditions).

3—The opportunity to enlarge a negative to the best size and proportions, and to enlarge only a section of a negative, since most negatives contain too much subject matter and need such cropping.

4-The opportunity to improve contrast "locally"



AFTER NEGATIVES have been washed many photographers give them a 1-minute bath in a wetting agent. This plus the use of viscose sponges (see above) will prevent water spots.

by "dodging" the print during exposure ("shading" negative areas that are too thin, "burning in" areas that are too dense), in order to achieve the best over-all effect.

5—The opportunity to produce an over-all tone in the print that will portray the desired mood ("high-kev" or "low-kev" printing).

6—The opportunity to correct distortion in perspective ("converging verticals" can be restored to parallel during exposure by tilting negative and printing paper in opposite directions.)

7—The opportunity to see results immediately, to develop and print negatives while interest in the picture is still intense, and to experiment with different print-versions until a desired result is achieved (manner of cropping, different tonal "keys," papers of different gradations and surface textures, etc.).

8—The opportunity to experiment with various positive processes (double-printing, montage, solarization, bas-relief, etc.).

9—The opportunity to save a considerable amount of money which otherwise would go to photofinishers, and which instead can be used much more profitably to finance the initial installation of a darkroom, and later to buy additional material and equipment.

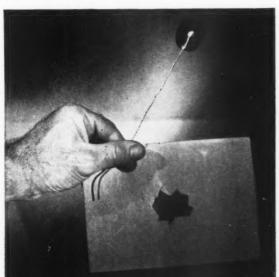
10—The most valuable opportunity of all: to learn through first-hand experience, and to profit from making mistakes by recognizing their causes and learning how to eliminate them.

### A make-shift is better than nothing

Upon considering a darkroom, most photographers immediately visualize it as having hot and cold running water, built-in sinks, waterproof floors, and similar "permanent" features. While such features may be ideal, they are not entirely necessary. The one and only condition that a workable darkroom must fulfill is what its name implies: it has to be dark. Beyond this, everything else is of secondary importance since all other necessary features can be improvised. Consequently, anyone who has a room of his own can convert it into a perfectly workable darkroom simply by installing light-tight blinds at the windows.

The accompanying photographs show the author's own workroom both in daylight and after conversion into a darkroom. Masonite panels on wooden frames fit tightly into the windows, and trays replace the typewriter. (Running water is available in the near-by bathroom). The whole transformation takes less than two minutes. The cost of this "installation" was about \$25 for labor and material. And this is approximately twice the cost of an average installation since most prospective "darkrooms" will have only one or two windows. I firmly believe that it is infinitely better to have an "improvised" darkroom than no darkroom at all, and facts seem to bear me out. For many years, I have done a large part of my work for Life Magazine in this improvised fourwindow "darkroom," and I have never noticed the slightest difference in the quality of work done here, and the prints which I made in Life's professional darkroom. As a a matter of fact, whenever I have to print negatives that require special care I prefer to use my own improvised darkroom where I can work completely undisturbed. To me, this is an advantage that more than compensates for the admittedly

DODGING equipment for enlarging is easy to make. The upper gadget is ideal for holding back a small area; it is made by gluing red acetate to a wire. Cardboard, below, has ragged hole for "burning in" areas which are too dense.



greater comfort offered by any permanent set-up.

### The most desirable features

The more of the following features that can be included in a prospective darkroom, the more comfortable it will be as a place to work. However, remember that only the first of these conditions is really vital.

1-It has to be dark. The least expensive way to darken a room is to use Masonite panels on wooden frames that fit tightly into the windows. (Panels constructed of thin plywood are not opaque enough. Heavy opaque roller shades fitted into light-tight channels-the type used in many lecture rooms-are ideal, though more expensive). Faint traces of stray light may still exist but these may be harmless. To find out, make the following experiment: Take a sheet of unexposed film and a sheet of sensitized paper, and place them side by side-emulsion side up-on your work table. Place a few coins on each sheet. With safelight turned off, leave both sheets exposed to the stray light for about five minutes. Then, with safelight still off, develop and fix the exposed film and paper. If the film is perfectly clear and the paper perfectly white, the stray light is harmless. However, if the film emerges more or less gray with transparent circles (where the coins protect it), while the paper remains uniformly white, the room is not safe for negative processing, but dark enough for printing and enlarging. In that case, it is often simpler to process negatives at night or to develop them in daylight loading tanks than to improve the tightness of the blinds. And printing, of Continued on page 99

CLEANING a negative with carbon tetrachloride will save time spent in tiresome spotting. Scratches can be kept from printing by applying a light film of vaseline to the negative with cotton. This does not damage the negative.



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### Leonard McCombe photographs the most colorful province in the Americas

## GUANAJUATO

PHOTOGRAPHS BY LIFE PHOTOGRAPHER LEONARD McCOMBE



M exico is a photographer's paradise. There is brilliant light, colorful landscape and people who are photographically interesting because they are different from any that you have ever seen. Who could ask for more?

I love the Mexican landscape, chicken soup and chicken with rice, Agua de Tehuacan (i.e., mineral waters), tortillas and beans. I love the food. The peasant folk are very well mannered and I appreciated their Buenos Tardes to me. They usually will cooperate if you approach them kindly. I didn't like the "City Slicker" Latins, I'm afraid. Mexico is probably the most productive place for the amateur photographer in the world if he can avoid dysentery, altitude sickness and getting into brawls with tequilla drunks.

When you go to Mexico I should think that you would have the same objectives that I had. I wanted to see the real Mexico, not the tourist centers where there is food, drink and night clubs, "American style." I wanted to photograph the native festivals and the people in their everyday dress and life. Since Mexico is an intensely religious country, much of the native's life revolves around the Church. And in Mexico religion is practiced morning, noon and night. It is colorful and spectacular.

So if you want to step into a world that

THIS IS NOT an Aztec god smoking a cigarette, but an Indian participant in the Fiesta of San Miguel, taking time off between dances. The men at the left are part of the thousands of pilgrims who come from all over Mexico to the shrine of Atotonilco. These "penitentes" are listening to the reading of the scriptures.



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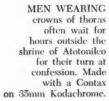
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A YOUNG MEXICAN girl blends beautifully with the flowers she sells. Ektachrome in late afternoon light on 2½ by 2½ inch film.







IN GUANAJUATO
the ground is so hard
the dead are buried
in a small plot for
five years. Then they
are dug up and placed
in these catacombs. This
is a mining engineer named
Mustapha visiting his aunt.

is filled with beautiful colors, the perfume of strange flowers, and has a pace that invites one to relax and enjoy life, I suggest that you go to the remote spots like the Province of Guanajuato, which is some 400 kilometers northwest of Mexico City, Leave Acapulco and Mexico City for your Aunt Hattie who wants to live in the manner she is accustomed to.

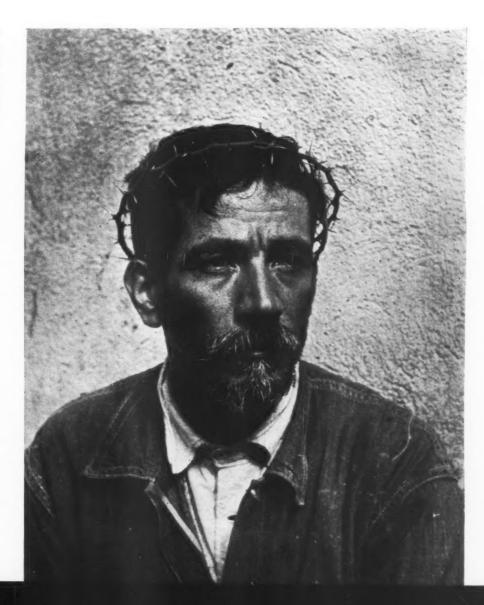
To get to these remote and picturesque places you should have a car. Gas is cheap, but often the roads are terrible after you leave the Pan American Highway. Another problem is the case of the disappearing hubcaps. Small boys seem to think these are placed on American cars for the taking. And frequently I would lose a tail-light. When you enter Mexico you will probably be charged a small customs duty on flashbulbs and films. Cameras are duty-free but they should be declared with the American Customs as you leave the country.

I worked in Mexico on and off from August through January last year. I visited San Miguel Allende in September for the big Fiesta where the shot of the Indian in the headdress on page 51 was taken, outside the famous church of San Miguel. The man comes from Mexico City and is an engineer in private life.

At the prospect of being photographed Mexicans are often very cunning and spoiled by hordes of American tourists. They demand money usually; frequently you have to pay everyone in sight of the camera, then others appear from nowhere and demand payment. If I had a group shot to take I would pick out the leader and bargain with him. After the picture I would pay him quickly and get out. The best way to describe the situation is this—picture taking is part and parcel of tourist business and is handled as a business; so the amateur who goes to Mexico should be prepared to have plenty of peso bills handy.

I used a Contax, a Rolleiflex and a Graphic View, the latter for architectural shots. For color I used both a Norwood and a Weston meter. I tended to Continued on page 80

"I was drawn to this man, one of the penitentes," says Leonard McCombe, "in his face there was a look of Christ-like humility." The photograph was made with a Contax in reflected afternoon light.



# Pictures from our readers I TRIED IT MYSELF

Without overlooking the fact that a professional photographer on assignment must often do a bang-up job of picture-making on the spur of the moment—while an amateur can usually choose his time, place, and subject matter (and do a re-take if he muffs his first attempt), there is a saying among magazine editors that thousands of advanced amateurs today can match the finest work produced by the topnotch professionals

Continued on page 94



THE THREE-DIMENSIONAL effect of bas-

relief (Feb. Modern) was put to good use by C. E. Westveer of Pleasant Ridge, Mich. in the porpoise feeding picture below. Made in bright

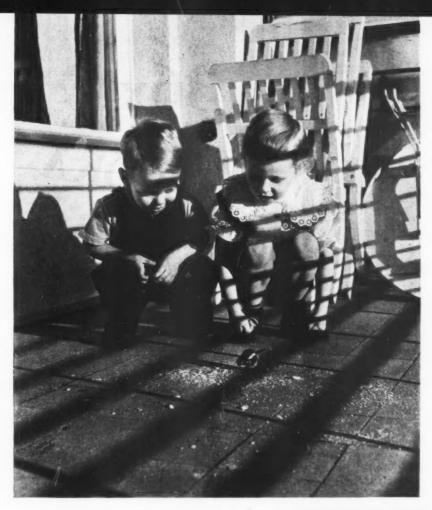
Florida sunlight, this Rolleiflex shot called for



BOB SMALLMAN'S picture of a jet take-off (April, Modern) hit the spot with reader Steve Wilson of Los Angeles who especially likes the interpretative effects of blurred motion "for appropriate subjects." The above time-exposure, made at night, was one of a series of shots Wilson made on the theme of "Streetcars In Motion."

SEQUENCE SHOTS IN COLOR by Glen Fishback in the February issue of *Modern* inspired the black-and-white series below by Harold Lita of Los Angeles. Shooting at 1/200th second at about F:14 with a Ciro-flex camera, Mr. Lita had his subject make two running jumps in order to complete the series. Picture 1 was made on the first jump. Picture 2 was made during the second leap; the third picture, which "was mostly posed," was also snapped after the second leap.





SEVERAL recent articles in *Modern* have explained the trick of getting children absorbed in a simple game in order to obtain delightful pictures of them. Reader F. Wear's shot of his two children watching a toy bird "eat its dinner" is the best example of putting that information to use that we have thus far seen. Exposure was 1/100 second at F:8 on a Rolleicord camera. Mr. Wear, you forgot to include your address!

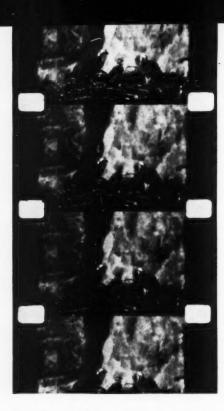
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A KODAK 35, equipped with a \$1 Proxar lens, got the TV image below for George Marsik of Cicero, Ill. He used a tripod, shot from a distance of 21%, and used an exposure of 1/10 sec. at F:3.5.





CENSORSHIP and the conflicting attitudes of people towards the portrayal of nudes in photography inspired the above picture. Merrille Harris made the final print by sandwiching two negatives, one of a nude, the other of three faces and a hand, together in the enlarger.



## 36x BAZOOKA

for your
movie camera

How I wanted some footage of those nests! For the eighth consecutive year I stood at Inspiration Point in Yellowstone National Park and watched the winging ospreys. As I had done each time before, I searched the steep canyon slopes for a glimpse of their aeries, always so far away that they are barely visible to the unaided eye. But when I left the Park, I determined to return next year with a plan for capturing the ospreys and their nests on Kodachrome.

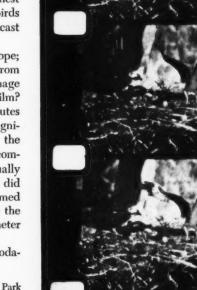
I had found a standard 4" telephoto lens gave an image in my focusing attachment that was large enough to permit one to see definitely that the nest and birds were there, but no details on the birds themselves. It wasn't satisfactory, so I began to cast

about for ways and means.

I had a 36" focal length, 3" aperture telescope; could this be used? By removing the eyepiece from the camera (16mm Autoload), could the image from the objective be focused directly on the film? In the B & H focuser, the ground glass substitutes for the film and is itself viewed with a small magnifier. I improvised some "splints" and taped the camera onto the eyepiece holder, trained the combination on a distant street marker, and eventually got the telescope's focusing adjustment so that I did get a clear image in the focuser. Besides, it seemed quite bright, better than I had anticipated from the F:12 maximum aperture possible with a 3" diameter lens at 36" focus.

I replaced the focuser with a magazine of Koda-

TEXT AND PHOTOS BY B. J. BABBITT



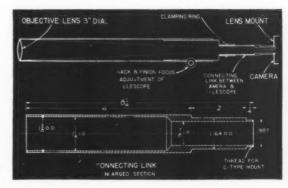
PRIZED FOOTAGE of ospreys in Yellowstone National Park was taken by the author with the aid of his home-constructed telephoto lens. Nests were barely visible to the unaided eye.



THE BAZOOKA MOVIE LENS in operation. Originally two tripods were used to mount the setup, as shown, and a pan head on the camera tripod provided the framing adjustment. An improved mounting system, below, was later adopted.

chrome and shot a few frames. Then I repeated the procedure on some flowers about a half block away, and some other objects at varying distances and degrees of brightness. After processing, this should provide a good indication of whether the idea would work. Finally, after a week or so of anxious waiting, I threaded the returned Kodachrome into my projector. The results were promising. Individual frames were clear and distinct, but the sequences showed a great deal of shaking.

The next step was to make a tube to replace the telescope part that held the eyepiece, and provide the end with a thread for a standard C-type movie lens mount. This could be screwed directly into the camera in place of the lens, thereby making a rigid connection between the telescope and camera to replace the improvised splints and tape. When this was accomplished satisfactorily, I went through the previous procedures but found it impossible to get a stationary image; it was always jittery. If I put my hand on the starting button, the image moved; if I



held it "steady," it quivered; if I didn't touch it at all, it still quivered with the least perceptible breeze. Further refinements were necessary.

All this time, I had supported the apparatus on the telescope tripod, shifting the clamping point to provide a balanced system. The camera was attached to the lens instead of the lens to the camera. Now I

Continued on page 103





OLD AND NEW versions of the mounting arrangement for the "Bazooka" appear at left. The new setup provides an 8X spotting scope and a bipod replaces the tripod. Horizontal adjustment is made with a rack and pinion, while a screw gives vertical movement. The diagram above shows how the telescope is attached to the camera and gives specifications for the adapter.

# FLOP-OVER PRINT DRIER BY M. C. ANDERSON

This drier has all the features of a deluxe commercial model, yet costs under \$10 to build

Do you need an inexpensive print drier that will turn out professional work? Here is one that has been mistaken for a commercial model by other photographers, yet cost me less than \$5.00 to build! It will do work equal to commercial driers, and is more convenient to use than many.

The drier accepts standard 18x24" chrome ferrotype tins and will handle eight 8x10 prints at a time, or the equivalent in other sizes. Drying time is about 5 minutes, depending upon the thermostat setting. The thermostat control, pilot light and power switch are conveniently grouped on the side panel of the drier. The drier will handle either glossy or mattesurface prints simply by drying the matte prints face-up. The ferrotype tins are loose and are placed flat on the table for loading, permitting a much better squeegee job and consequently a better final finish on glossy prints. Still another feature of this drier is the canvas tensioning springs, which keep a constant tension on the canvas regardless of stretch or shrinkage.

The drier is easily portable and stores vertically in a floor space of only 9x30". Or, if you have a permanent darkroom, you may want to mount it in pivoted bench supports for easy loading. While the drier is somewhat less compact than the drum-style, it is easier to load and will produce flat prints with no edge-stretching and buckling.

Construction is simple and involves no special problems. The dimensions in the drawings (see pp. 60, 61) are for a convenient size. They may be changed, however, if you need a larger or smaller drier for your purposes.

#### Saw and Assemble

Begin by cutting the end and side panels from %" or ½" plywood, preferably the latter. Assemble these into an open square, using glue and wood screws at the corners. Insulation is next, and should be cut from %" or %" soft asbestos insulating board, available at furnace and heating firms. One side panel will have cutouts for the pilot light assembly, switch and thermostat, as well as a hole drilled for the power cord. Lay these off with a rule and cut

the holes before nailing the asbestos to the wood panels.

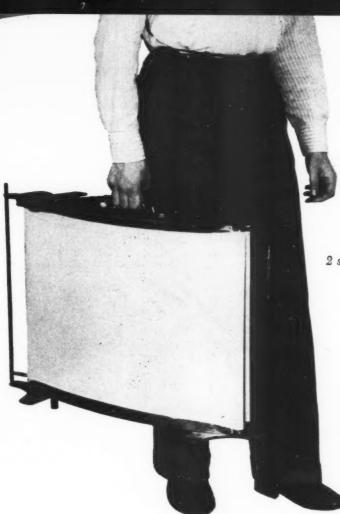
The sheet-metal covers which support the ferrotype tins are cut next, and may be either "half-hard" sheet aluminum or galvanized iron. If you buy the material at your local sheet metal shop, have them cut it to size for you on their squaring shear. Touch the edges with a file and the sheets are ready to attach. One side may be permanently fixed with small nails driven through drilled holes (to prevent bending the thin metal). The other side should be made removable by attaching it with small flat-head wood screws, countersunk flush with the surface. The removable side should be left until the wiring is complete.

The leg pieces, which also support the canvas rods, are cut from ¼" plywood and sanded to a smooth contour. Since these leg pieces are all alike, you can cut them all at one time by nailing four pieces of plywood together. They are attached to the box with three flat-head wood screws each. Holes drilled in these legs hold the ¾" steel tubes which support the canvas cover.

Mount the pilot light, switch and thermostat next, so the heating element supports will not interfere with them. The pilot light is of the jeweled type, available at radio supply houses. A standard toggle switch may be used, and the thermostat may be adapted from a worn-out electrical heating appliance such as a toaster.

#### Wiring Comes Next

If the thermostat is not available, you can build your drier to operate satisfactorily without one by a little experimentation. Begin by using the recommended length of heater element, or slightly longer. Try the drier under actual drying conditions. If it is too slow, remove one panel and shorten the heating element a few inches, then stretch the remaining wire to fill the gap. Assemble and try the drier again. If drying is still too slow, repeat the process until your drying time is roughly five minutes. This should preclude any possibility of scorching the prints, even if you forget to shut off the drier. Once



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For "how-to-build it"

plans and photos,

turn the page

### **BILL OF MATERIALS**

2 sheets 28-gauge Galvanized Iron, 25½x19"

1 piece %" Plywood, 14x18", for legs
1 piece %" Plywood, 16x25", for frame
1 piece %" Asbestos Sheet, 16x25",
for insulation

7' %" O.D. Steel Tubing, for canvas support rods

4 Coil Springs, 2" lengths

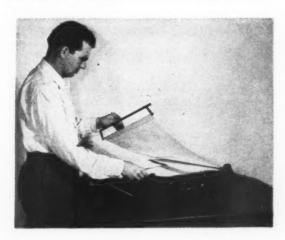
1 piece %" Hard Asbestos Sheet,2%x23", for heating element supports

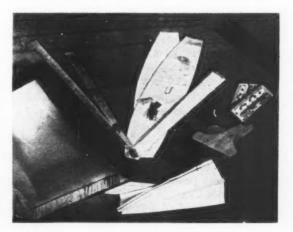
2 660-watt Replacement Heating Elements

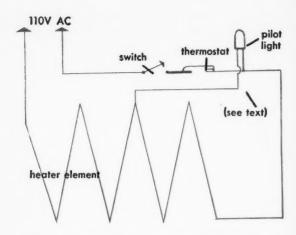
2 pieces White Canvas or Duck, 20x30" Pilot Light Assembly, Porcelain Bushing, 10' Asbestos Appliance Cord, Plug, Switch, Thermostat, Handle, Misc. Small Hardware

CLEAN LINES and efficient operation mark the completed drier. Completely portable (above), it is equipped with a handle and rubber feet. In use, it may either be placed on a table, as shown below, or stood vertically in an out-of-theway corner of the darkroom. The fast drying time (five minutes) and two drying surfaces allow a continuous load-unload cycle to handle up to one hundred 8x10 prints an hour.

LISTED ABOVE are the few materials needed to construct the print drier, all easily obtained. Most appear in the photo below beside the partially completed drier frame. In the center is the asbestos insulation, cut to shape, the porcelain bushing and angle brackets. Shown clockwise are the 4 coil springs and canvas-support tubing, heater elements, thermostat and switch. plywood legs, cord and plug, and the canvas covers.







SCHEMATIC DIAGRAM, above, shows how print drier and its controls are wired. Note the tap on the heating element. it is positioned to obtain correct voltage for the pilot lamp.

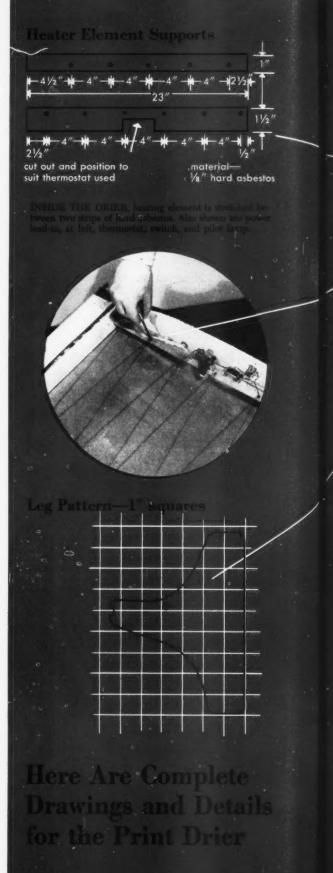
adjusted, the element will need no further attention.

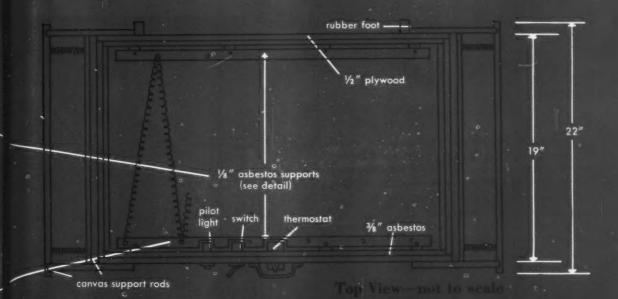
The heating element uses two standard 660-watt replacement elements connected together. These are available at most electrical shops or even the five-and-dime stores. The element is supported in the drier by 1" strips of hard asbestos which are attached to the side panels by small sheet-metal angle brackets and screws. Again the asbestos supporting strip on the thermostat side will have to be cut to fit around the thermostat, switch, etc. Before assembly, the heating elements are stretched to about six feet long each. They are held to the asbestos supports by 6-32 or 8-32 machine screws and washers. If you find that your drier is slow, even at the highest thermostat setting, the heating element may be shortened a few inches as explained above.

The power cord is brought into the drier through a porcelain insulator and one lead attached to the screw holding the end of the heating element and the other to the thermostat. The thermostat and switch are wired in series with the element, as shown in the schematic diagram above. The pilot light may be either a 6 or 12-volt bulb, and is shunted across part of the heating element to get the proper voltage drop. To find the right connecting point, hook up one pilot-light lead to the end of the heating element, plug the drier in and turn it on. Now make contact with the other lead to the coils of the element at a point near the first lead. Next gradually move this contact away from the first until a point is located where the pilot light burns sufficiently bright. Connection may then be made to the nearest element mounting screw.

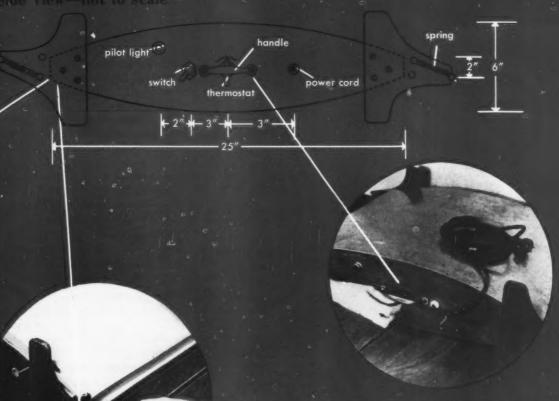
The power cord should be asbestos heater cord, long enough to permit moving the drier about in use. The covers are cut from heavy white canvas or duck and seamed all around, with an extra-wide 

Continued on page 99





Side View-not to scale



A RHEOSTAT, located behavior the carrying bundle, adjusts the temperature ratoff of the thermostat. Also mounted on the host panel are the pilot light and certific

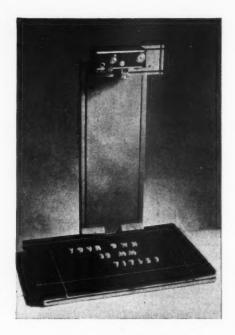
PLYWOOD LEGS, left, were the double purpose of supporting the driver and holding the survay success in place. Call springs brazed to steel tabling provide the treat. Note the two radius for at left.

### Here's a simple way to make your own

### TITLE SLIDES

One sure-fire way to put some audience appeal into your evening slide showings is to sprinkle a few titles among your selection of slides. Whether they give a careful description of what's coming next, or just keeping your friends guessing, they'll add importance to the slides that follow.

The simple titling device illustrated here was assembled in less than an hour from a few pieces of scrap wood. When locked in place, the camera automatically focuses with the aid of a supplementary portrait lens (camera lens set at 3 feet). Predetermined guide strings, removed before exposure, are used on the platform to locate the field of coverage



BY J. EARL PETTIT

ODDS AND ENDS from the scrap box were used in constructing this efficient titler for 35mm slides. A 2+ proxar-type auxiliary lens is used on the camera. The mounting hole was drilled to position the camera in focus when the focusing scale is set for three feet.

while placing letters, etc., so that framing will be accurate.

The position of the guide strings, together with the distance from lens to platform, can be determined easily by consulting the scale of distance furnished with Kodak Portra Lenses and others (or see Photo Data "Supplementary Lenses," Modern Photography, March, 1950—Ed.). By dropping a weighted cord from the exact center of the lens to the platform below, the spot of contact will provide a reference point from which to measure the field of coverage.

Letters used were of the type that is common for making movie titles. They can be tinted to any shade with show card colors and can be washed whenever a change of color is desired.

Originally, patterned wallpaper taken from discarded sample books was used as a background, but with the white letters it was found that not enough contrast was obtained. The best results were realized with the use of a piece of black plush upon which the white or colored letters were placed.

Since the titler provides a flat, horizontal surface, any object can be placed in any position and, unless receiving a jar, is in position for exposure without the need of an adhesive.

One RFL2 lamp will provide sufficient illumination (or use two for balanced lighting) and an exposure meter should be used on the initial exposure. The reading is based upon the white or colored letters, rather than the black plush background.

# Busy teak November

Kodak

"Dead month, November. Nothing worth doing."

"On the contrary. There are no dead months in amateur photography. It's the inexhaustible hobby, with rewards at every turn, any hour, any day, any time of the year . . . and twenty-four hours a day are never enough to reap all the potential harvest. Here are more than a score of projects that could busy you gainfully right now . . . "

Sort out and contact-print all your negatives, everything you've taken from the beginning, so you have a complete file record. In the process, you'll find many a forgotten treasure—maybe a gold mine of salon and gift material. File and index the

(Continued on next page)



Once you've brought your collection up to date, tidy filing of each new group of negatives takes but a few moments-with the right file. A Kodak Negative File is your best choice—it offers a chemically safe envelope for each negative (or short strips of

miniature negatives) and a handy index. Nine sizes, up to 5x7; \$2.25 to \$3.25.

As you sort out your negatives,

select the pictures you'd like to

put into a Christmas gift book

for your wife—or a volume of family pictorial history. No gift will be more deeply treasured than a personalized book of big



A good contact printer is mighty helpful in bringing the album up to date. Best bet is an efficient, all-metal Kodak Home Printer (below); only \$12.50.

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dramatic enlargements—8x10, 10x12, or 11x14. Kodak Platino Paper is especially recommended for such books, because of its high printing speed and its rich warm-black tones. Kodak Resisto Rapid N Paper is another good choice—it's fast to print; its water-resistant base speeds up washing; and the base is extratough, able to stand a lot of handling. Bind the book (see right) with plastic or wire spiral; many printers and binders new offer this service at low cost.

After the printing, the mounting. Kodak Rapid Mounting Cement (below) is quick, reliable, non-staining. Half-ounce tube, 20 cents; 11/2-ounce tube, 35 cents.

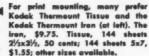


Prices are list and include Federal Tax where applicable

Make a special pictorial project of Thanksgiving this year—plan a complete pictorial coverage of the holiday. Such a project will give you wonderful training in photo-reporting; knowledge that's sure to be useful sometime later. This will be chiefly an indoor operation, so make sure you're adequately supplied with the proper films—Kedak Super-XX or Super Panchro-Press Film, Type B, for the flood shots, Kodak Verichrome or Super Ortho-Press Film for flash. Make a special Thanksgiving album from the pictures; at right is one of many possible cover ideas.



Continued on next page





Kodak

negatives in Kodak Negative Files; put the contact prints on file cards, leaving space for enlarging exposure data, dodging notes, correct paper contrast, salon acceptances, and so on.

Ge through your negative and print files, pick out the pictures that show the highlights of your family history, and print a big gift enlargement book for your wife, your parents—or books for both. There's no

grander gift in the world—but you'll need to start now and work fast, if the project is to be completed safely before Christmas.

Outline a shooting script for Thanksgiving this year—as if you were assigned to report the event for a national picture magazine. Start with the selection of the turkey... kitchen activities...arrival of guests... the carving... each step right through to the end. Then do a complete job of reporting with your camera. This can be a most valuable bit of training in photo-reportage—and the pictures furnish you material for another family album.

Finish up your Christmas cards, and get them into the mail. If you haven't started, get started now—not another day's delay! Your Kodak dealer has every technical aid you could possibly need (some of the details are in this Kodak Bulletin). Don't let the calendar sneak up on you!

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Stert your Christmas picture story as soon as gift purchases start—and carry it right through to the end. In November, there will be shopping tours and gift wrapping to picture... and November is the month to plan the later pictures, and stock up with adequate supplies of film and flash lamps. If your earlier Christmas stories have all been in black-and-white, let full-color share the story this year.

Gear up your darkroom for better work in the months ahead. Dispose of chipped or cracked trays, and replace them with tough, durable Kodak Enameled Trays or Kodak Hard Rubber Trays. Discard stale or



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doubtful chemicals, and re-stock with fresh, reliable Kodak chemical preparations. Examine your stock of printing paper for expiration dates, and plan to use up any that's approaching a decrepit old age. Take care of your comfort by installing a large indirect safelight-few items contribute so much to pleasant darkroom operation. Let a Kodak Utility Footswitch and Kodak Electric Time Control add convenience and precision to your enlarging. Assure yourself of thorough print washing, for permanence, with a Kodak Automatic Tray Siphon. Every step you take toward comfort and convenience is a step toward better prints, because small impediments and petty annoyances are always reflected in

Brush up your technique and broaden your

knowledge with reliable reference material—a copy of "This Is Photography," a Kodak Reference Handbook, and the new Kodak Color Handbook (it's an advanced book, but a mighty good one to grow up with; details are elsewhere in this Kodak Bulletin).

Search through the photographic magazines, find what photographic contests are current, and enter one or more of them. Competing for prizes or honors lends new zest to your camera activity. And don't be afraid to submit to any salons that attract you, even if you've never sent prints to a salon. Every veteran salon exhibitor was a beginner once.

Make up your Christmas gift list—and include cameras for other members of the

family. Photography is a lot more exciting when there's competition right at home—and it helps bring the family closer together.

Work out a decoration scheme or "picture gallery" plan for your den or recreation room, to utilize enlargements of your favorite pictures. One of the simplest plans is to run two grooved moldings around the room, one about 20 inches above the other, so that prints on 16x20 mounts can be slipped in, making a continuous band or frieze.

Build a shallow illuminator box to fit over the mantel in your recreation room or living room, for dramatic display of Kodak Opalure transparencies (you'll find all the facts on Opalure elsewhere in this Kodak Bulletin). An illuminator 14 inches high



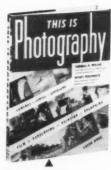
New's a good time to check the chemical shelf . . . eliminate stale stuff . . . and replace it with fresh, reliable Kodak chemical preparations.



Be comfortable with a big Kodak Utility Safelight Lamp, Model C. It reduces eyestrain; makes operations much pleasanter.



Increase accuracy with a \$6.75 Kedak Timer With Tilting Base (abeve) or a Kodak Electric Time Control, \$13.50. The Kodak Timer splits seconds up to 60 minutes.



November's a fine month to brush up on photo facts and techniques. Get a copy of "This Is Photography" (\$2) and make the series of experiments it contains; they're fine discipline. Buy Junior a copy of "How To Make Good Pictures" (and then borrow it from him; there's a world of useful data in this famous 75-cent basic handbook). And by all means add the brand-new, comprehensive Kodak Color Handbook to your reference shelf. It has four great sections, covering color principles, color in the studio, color affeld, and color films. Loose-leaf, too, for adding specialized sections. Only \$4.



Let a three-way Kodak Combination Funnel add speed and neatness to your mixing and filtering of solutions. Only 85 cents, and a darkroom essential.







Free your hands for dodging and other print manipulation with a compact, sturdy Kodak Utility Footswitch (below). \$10.



Bring your darkroom up to date now with the handy aids on this page. You'll be busy later on.



Continued on next page

and 44 inches long, with a couple of 40-inch fluorescents inside, will accommodate four 11x14 transparencies, or a panorama printed on four 11x14 sheets of Kodak Opalure Film. Could be breath-taking!

Try your hand at paper negative work. It's interesting, and has its uses even if your photographic tastes are "purist" rather than "pictorialist." There's a 12-page Kodak pamphlet, The Paper Negative Process, available to owners of the Kodak Photographic Notebook.

Take up table-top photography—a most entertaining and creative indoor activity for your camera. Maybe you've dabbled in it a bit; but this time, go at it seriously. There's no end to what you can do, and each idea gives your pictorial imagination extra training. A kit of all three Kodak Portra Lenses will be helpful here (and in close-up work anywhere); and basic tabletop advice is in the book "How To Make Good Pictures." Your boy or girl, by the way, should have a copy of that famous elementary handbook; it's only 75 cents.

Learn all the ins and outs of using extension flash for pictorial effect. The new Kodak Flasholder Model B and a Kodak Flasholder Extension Unit provide the equipment you need for use with any current Kodak camera that has a flash shutter. This does not include Brownie cameras; special inexpensive Flasholders are made for the flash-synchronized Brownies.

Plan a series of outdoor (and indoor) pictures that will capture the mood of November in your locality. Every month has a story to tell, in every part of the country where seasons change. To search out this mood and story, and capture it defitly on film, is camera adventure at its creative best.

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Organize your color slides into natural groups for showing, so that your presentations to friends and guests will be smooth and entertaining. Gives you—and them—a lot more satisfaction. Kodaslide Compartment Files are a great help in this operation.

Supplement your color slides with titles opening titles, end titles, and explanatory titles at strategic points in the show. These give a professional finish to your slide shows. Portra Lenses, or a Kodak Flurolite Enlarger with Copying Lights and Camera

If November weather shuts you in, use the opportunity to polish up your flood and flash techniques, and your knowledge of lighting. Kodak Vari-Beam Clamplight (\$9.75, below) and Vari-Beam Standlight (\$15, at left) are basic flood units; accept No. 2 lamps; focus for wide or narrow beam. Use them in working out informal portrait and genre lightings at



Clamplight has sturdy padded clamp; won't mar furniture; adjusts to practically any angle you want.



Use of extension flash is increasing—you must learn about it to remain up to date. If you have a flash-synchronized Kodak camera, add a Kodak Flasholder, Model B, and a Kodak Flasholder Extension Unit, Model B. The Extension Unit is pictured here (it also includes an extension cord and a Kodak Two-Way Flashguard which provides a choice of diffused or undiffused light). Handy clamp permits mounting almost anywhere. Flasholder, Model B, is \$11.50; Extension Unit, \$12.75.



Equip yourself for table—

| top, still-life, and other ex| treme close-up work with a
| kit of Kodak Portra Lenses—
| 1+, 2+, and 3+. These can
be used singly or in combina	tion	tion	tion
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Prices are list and include Federal Tax where applicable

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natural presentasmooth them—a Compartperation.

n titles planatory w. These our slide Flurolite Camera Back Adapter, facilitate title production.

Pelish up your copying technique—it's a phase of photography you should know, not only for its direct returns, but also because it trains you in accurate procedures that carry over into all your negative-making and print-making. Learn to make clean, precise copies of line art, maps, printed matter, and halftone or continuous tone material. Your Kodak Flurolite Enlarger (and especially the Kodak Enlarging Ettar and Ektanon Lenses, specifically computed for high definition at the close ranges used in enlarging and copying) are excellent instruments for this work.

Take a whiri at photomicrography—a field that grows in fascination the farther you go into it. A simple lighttight collar, the Kodak

Microscope Attachment, equips your Kodak Flurolite Enlarger for photomicrography, with a Kodak Camera Back Adapter substituted for the enlarger lamphouse.

For a change of pace in enlarging, if you've been printing everything crisp and needle-sharp—try experimenting with soft-focus, diffused, atmospheric effects. Very likely some of your autumn negatives offer perfect material for such interpretation. A Kodak Optical Diffusing Plate, 2-inch (used in front of the enlarger lens), gives you a wide range of effects, from almost-complete softness to very slight diffusion with a crisply defined underlying image.

Make some super-size enlargements or photomurals. Your favorite Kodak enlarging papers all come in sheet sizes as large The Kodak
BULLETIN

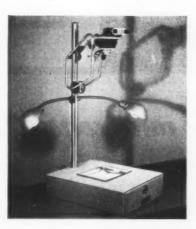
as 20x24 inches, as few as 10 to a package, or as many as 250. (If you want to go even larger, the same papers come in rolls up to 40 inches wide, and as short as 10 feet.) There's real chest-swelling satisfaction in a monumental scenic blow-up from one of your own negatives... a thrill you can understand only after you make such a print.



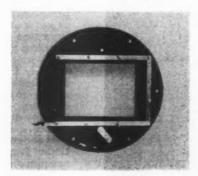
Start this winter with a truly modern enlarger —a Kodak Flurolite. The Flurolite's famous "integrating sphere" illuminating system, full range of controls, high adaptability, exceptional sturdiness, make it top choice. \$112.50, less lens.



Nevember's a good time to put your slides in order—add titles—organize all the transparencies for winter showing. The new Kodeslide Compartment File (above, \$3.75) is especially convenient—both for arranging the slides and keeping them in order for projection.



Not just an enlarger, but the basis of a complete photographic system—that's the Kodak Flurdlite. Here, the enlarger is set up for 35mm. copying and slide-making (two fields, by the way, you should explore). Bellows assembly is completely removable and fits a Kodak Flurolite Camera Bed—add that accessory and a Kodak Flurolite Camera Back Adapter (below) and you have a first-rate 2½x3½ view-type comera.



Titles help slide shows—and they're easy to make. Add the Kodak Flurolite Carnera Back Adapter (above) to your Kodak Flurolite Enlarger—and you can sheet four 1x1½-inch titles at one time on 2½x3½ Kodachrome or Kodak Ektachrome Film.



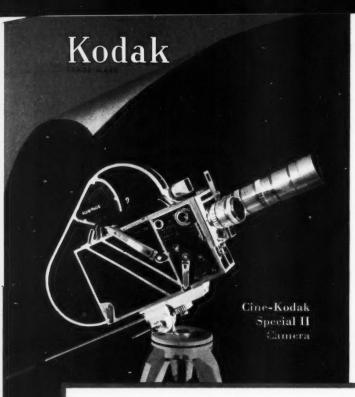
Here's another Flurolite adaptation. Remove the enlarging lens, substitute a Kodek Microscope Attachment, put on a Back Adapter—and you're ready for photomicrographic work. It's just one more of the many "plus" potentialities.

### NOW-Opalure

Kodak Opalure Print Film is a new sensitized material of rare potentialities. Basically, it's Kodak Opal emulsion coated on a white film base similar to that used for Kodachrome Prints. With normal exposure and development in Kodak Selectol Developer, it yields warm-tone prints of exquisite surface quality. With plusnormal exposure and full development, it yields superb prints for viewing by transmitted light—rich, brilliant "translucencies" with extraordinary range of tonal gradation. You'll want to try it for extra-

roull want to try it for extraspecial exhibition prints (either developed straight, or toned a rich gold-brown in Kodak Gold Toner, or striking reddish-brown in Kodak Selenium Toner). You'll also want to make prints for rear-illuminated display as home decorations.

Since it's film, the cost is higher than for paper—\$6.80 for ten 8x10 sheets; \$12.75 for ten 11x14 sheets. But wait until you see the prints!



### The "Special II" is the camera

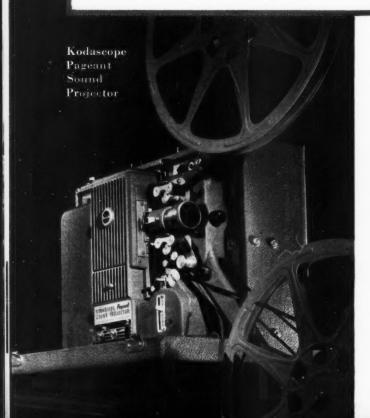
There's just no comparing this superb, top-of-the-line Kodak motion-picture camera. It's lengths ahead in built-in features . . . in filming range . . . in capacity for special effects. It's far and away the world's most versatile 16mm. movie camera!

Name your cinematic effect—the "Special II" makes it possible . . . through controls that are part of the camera itself. Fades, dissolves, mask shots, varied-speed movies, animation . . . and others . . are easy, inthe-camera operations with this unique 16mm. motion-picture maker.

Fully capable . . . amazingly precise—yet a camera that retains much of the ease and all of the operating economy of home movie cameras, the "Special II" is with excellent reason the top-choice camera of the movie experts.

Complete with 100- or 200-foot film chamber . . . with f/1.9 or f/1.4 Kodak Cine Ektar Lens . . . it's priced from \$898.50, including Federal Tax.

## For those who want the finest IN 16mm. MOTION PICTURES



### The "Pageant" is the projector

It's Kodak's newest...Kodak's finest...lightweight sound projector!

Through wonderful new developments in design and construction, the "Pageant" couples the convenience in handling of "midget" projectors with the quality of performance of full-scale machines. Though it weighs under 33 pounds complete, though it's fitted in a case scarcely larger than an overnight bag, the "Pageant" offers everything you'll need for superb 16mm. sound—and silent—projection.

Quality features by the score—fast 2-inch f/1.6 Lumenized lens with field flattener . . . 750-watt lamp . . . takes accessory lenses, a 1000-watt lamp, for unusual conditions . . . built-in microphone jack . . . 7 watts of undistorted amplifier output on AC . . . big 8-inch speaker . . . maximum stability of film at the scanning point assured by a silicone-oil-damped roller . . . Fidelity Control focusing of the scanning beam . . . AC-DC operation . . . and many others.

Even the price is a feature—just \$325, complete.

Prices are subject to change without notice.

EASTMAN KODAK COMPANY Rochester 4, N. Y.

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C-DC

A chart and a test that will help you make sure your darkroom is equipped with

# SAFE SAFELIGHTS



SAFELAMPS are available in many styles to meet every dark-room need and budget. Shown above are a few popular models: I hanging type for indirect illumination, 2 wall mounting style equipped with two interchangeable filters, 3 desk type with swivel adjustment, 4 screw-in style with interchangeable filter cups, all by Eastman Kodak Co.; 5 three filters on rotating drum, 6 fluorescent model, both by Golden "B."

Nearly everyone now recognizes the fallacy of the old fashioned black-walled darkroom. Today's design for a darkroom provides for as much light as possible: highly reflective, white-painted walls and ceiling, with the dim red bulb supplanted by plenty of large safelamps, strategically placed to flood work areas with light that's bright and easy on the eyes.

This rather rosy picture of a darkroom, 1950 style, is not an exaggerated one. Over the past several years it has been tried and proved in hundreds of the country's best equipped professional studios and processing laboratories. But in order to enjoy its benefits, several requirements first must be met. Obviously, since the walls *are* reflective, no stray white light can be permitted to enter from outside. Also leaks from the enlarger and printer light sources must be kept at a minimum.

#### **How About Color?**

Most emulsions, both paper and film, are less sensitive to certain colors of light than to others. On the other hand, rarely are they completely insensitive to these colors either. Still another factor in designing safelight filters is the sensitivity of the human eye. After careful research, manufacturers have developed various safelight filters that represent the best compromises for the different emulsion types.

For instance, the greenish yellow filter now recommended as a universal paper safelight provides a high level of illumination. In addition it permits optimum judging of print contrasts during development—an impossible task when much red light is present. Likewise DuPont's S-55X filter is comparable in these respects, but is specifically designed for use with their Varigam variable contrast enlarging paper.

Somewhat less leeway is allowed for film processing, due to the speed and sensitivity of the emulsions. Thus the illumination is limited to that which can be supplied by either a dark red safelight for orthochromatic and color blind films, or a very dark green filter

# Use this 4-point testing program to find the danger spots in your darkroom safelight setup

for panchromatic films. Even so, for panchromatic films, manufacturers generally recommend that all loading and processing be done in total darkness.

No safelight is recommended for color film processing, since these emulsions are sensitive to all colors in approximately the same degree.

#### Watch the Watts

Just as with other types of exposure, the effect of safelight illumination on sensitized materials is, of course, cumulative. Great care is taken in manufacture to deliver films and papers to the photographer with the largest possible margin of safety still present. And in order to safeguard his materials after they are in the photographer's hands, each manufacturer makes careful recommendations as to the amount of safelamp exposure they can be expected to withstand. This he does by specifying the proper safelamp filter, the maximum lamp wattage, and the dis-

tance from the safelamp. For best results, always read these directions and follow them implicitly.

In general, allowable amounts of safelight illumination are as follows: for papers, a 10-15 watt lamp at three feet, or 25 watts with indirect illumination; for films, 10 watts at three feet, with indirect illumination only permitted for panchromatic emulsions.

The only certain way to determine if your particular safelamp setup is safe is to carry out a series of controlled tests like those outlined on the opposite page. Remember that fogging may occur at any time after a package of paper is opened until it is safely in the hypo. Hence testing should follow an exact pattern so the cause of fogging can be determined accurately.

Since filters will fade and change their characteristics in time, the tests should be repeated periodically, say every three months.

BY GEORGE BOARDMAN

# Here is a guide to commercial safelight filters:

	1	EASTMAN		ANCSO		DUPONT		
COLOR	WRATTEN	AVAILABLE SIZES	NO.	AVAILABLE SIZES	NO.	AVAILABLE SIZES	FOR USE WITH:	REMARKS
Greenish Yellow	OA	5½" diam., 5x7", 8x10", 10x12"	A6	3¼ x4¼ ", 5x7", 8x10"	-		Enlarging and contact papers	Universal paper safelight
Yellow	00	(see above)	A5	(see above)	-		Slow to medium speed contact papers	Wratten Series OA
Orange	0	(see above)	A4	5x7'' 8x10''	-		Fast contact and enlarging papers	or Ansco A6 recommended for replacement
Orange Brown	_		_		S- 55X	5½ " diam., 3¼ x4¾ ", 5x7", 8x10", 10x12"	All enlarging and contact papers including Varigam	Universal paper safelight
Light Red	1A	(see above)	-		-		Kodalith materials	
Red	1	(see above)	A7	(see A6 above)	7		Blue-sensitive films	
Dark Red	2	(see above)	_		V .		Orthochromatic films and plates	
Dark Green	3	(see above)	A3	(see A6 above)	-		Panchromatic films and plates	Use indirect illumination only
Amber	6B		_		_		X-ray materials	
Light Green	7	5½ " diam., 5x7", 8x10"	-		-		Infra-red materials	

## TEST PROCEDURE

## TEST EVALUATION

if paper shows no fog or veiling

if paper is fogged, highlights veiled

1

All safelights off.
Make a print from a
normal negative and
process in total darkness
with fresh solutions,
To prevent chemical
fog, don't exceed paper
manufacturer's time
recommendations.

Darkroom is lighttight, enlarger light source is properly shielded. Fogging in print area only indicates stray light or "bounce" from enlarger. Overall fogging shows light entering darkroom from outside.

П

Make a second print and process in exactly the same manner, but with all safelights turned on. Test II should give same result as Test I. Safelights are reasonably safe, even if slight fog is apparent in Test I (but not II). If Test I shows no fogging, safelights are too bright or filters are unsafe. Compare with Test III and check lamp wattages.

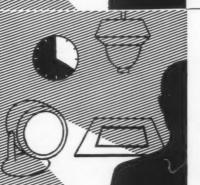
Ш

All safelights on.
Follow same procedure,
but do not actually
turn on enlarger or
printer. Leave paper in
place for same amount
of time as before and
mark to indicate its
position on easel.
Develop and fix.

Safelights OK under normal conditions. Check location of mark and fogged area of paper to locate defective safelight.

IV

Same as Test III, but allow three times as long for each step, except development.



Safelights are safe for at least three times normal paper-handling period. Safelight is unsafe for long operations such as quantity production, montage-making, etc. Check lamp wattage of unsafe unit.

# For Easy... Quick... Accurate focusing USE Weyer-Opticraft

## QUALITY EQUIPMENT



# HUGO MEYER Cam-Coupled Range Finder on 21/4 x 31/4 CENTURY GRAPHIC

"Tailor-made" to your lens to give precise synchronization at every point. Can be installed on the following cameras:

Century Graphic • Pacemaker 23, 34, 45
Busch Pressman 21/4 x3 1/4 and 4 x 5
Burke & James • Moridian
Linhoff III • Printex
All foreign film pack cameras



# POCKET RANGE FINDER

For any camera that has a distance scale — still or motion picture. Can be held in the hand or attached to your camera. \$10.50 incl. tax

# HUGO MEYER CINE LENSES



Trioplan Telephoto Cine Lenses bring distant subjects up close.

1½" f2.7 Telephoto Cine Lens for 8 mm. cameras \$54.00 incl. tax

\$54.00 incl. tax
3" f2.8 Telephoto Cine
Lens for 16 mm. camerus
\$82.50 incl. tax

Kino Plasmat Lens gives you extra speed for indoor movies. 1" f1.5 Kino Plasmat

Lens for 16 mm. cumerus \$84.00 incl. tax

At your dealer

Meyer-Opticraft ...

39 West 60th Street, New York 23, N. Y.

# salon calendar for november, 1950



PHOTO BY PETER GOWLAND

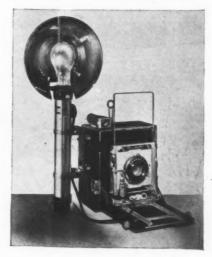
Closing Date	Name of Salon Date of Exhibition	For Entry Blank Write to	
October 18	★ Seventh Chicago International Color Slide Exhibit. Museum of Science and Industry, Chicago, III., Nov. 9 - 12.	John S. Darling, 9321 S. Bishop St., Chicago 29, III.	
October 20	★ P. S. A. National Club Color Slide Competition,	Merle S. Ewell, 1422 W. 48th St., Los Angeles 62, Calif.	
October 25	★ Sixth Mississippi Valley International Salon of Photography. City Art Museum, Nov. 5 and 13; Cabanne Library, St. Louis, Mo., Nov. 1.	Noel F. Delporte, 586 Stratford Ave., St. Louis 5, Mo.	
November 1	7th International Contest of Sporting Photographs and 5th International Salon of Sporting Photographs by Press Reporters. Nov. 19 - 31.	Club Atletico Provincial, Bd. 27 de Febrero No. 2672, Rosario, Argentina.	
December 9	16th International Salon of Photogra- phy. Des Moines Y.M.C.A. and Des Moines Art Center, Des Moines, Iowa, Jan. 1 - 21, 1951.	Des Moines Y.M.C.A. Movie and Camera Club, Y.M.C.A. Bldg., Des Moines, Iowa.	
January 15	★ 19th Minneapolis International Salon of Photography. Public Library, Minne- apolis, Minn., Feb. 4 - 24.	Warren Anderson, 123 S. 7th St., Min- neapolis, Minn.	
January 22	★ 3rd Minneapolis Color Slide Exhibition. Y.W.C.A., Minneapolis, Minn., Feb. 13, 14.	Warren Anderson, 123 S. 7th St., Min- neapolis, Minn.	

\* follows P. S. A. recommended practices

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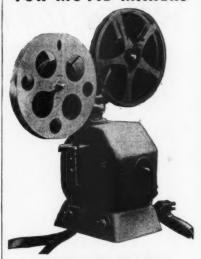
#### Cellux Speedlight

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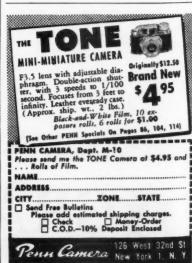
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#### **Photowagonette**

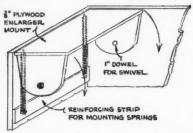
Continued from page 44

### Construction, Step by Step

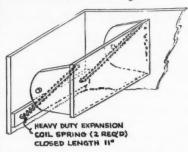
- 1. Make three horizontal frames for between the draws. The lower two frames, B and C, have %" plywood panels inserted in the dado cuts. Frame A has an overall ply-
- Cut out back panel for bottom two sections.
- Glue the above two panels in place and secure with finishing nails.
- Now glue the vertical draw separators in place.
- Glue and clamp facing strips to front edges of cabinet sides.



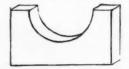
CONSTRUCTION of the three horizontal frames is shown in the drawing above. Frame C, for between the drawers, has dado cuts top and bottom (as shown) to receive the vertical drawer separators. The other two frames have dado cut on one side only.



CUTAWAY view of spring-loader enlarger mount shows operating position above, closed position below. Mounting platform swivels on two short lengths of 1" doweling. In closed position, springs are under greatest tension, thus act as a counterbalance for the enlarger.



EIGHT dowel supports, similar to the sketch below, are required. Made of %" to 1" wood, each has a % diameter semicircle cut in top to fit dowels used.



- wood panel on top of the frame.

  2. Cut out the end pieces for the cabinet; dado and rabbet for draw frames and back panels.
- Glue and clamp the three frames into dados in end pieces of cabinet.
- Cut out back panel for top section and rabbet ends and bottom edge.

- Top front panel may now be fitted, glued and dowelled or finish nailed through the cabinet end pieces.
- Next construct the drawers using standard construction as shown in photos and drawing.
- Cut out panel for top; glue facing strips to edges of front and ends.
- 12. Next, put on hardware such as piano hinge and arm braces on lid, casters and draw pulls. Enlarger mechanism should now be worked out. Pan suspension, print inspection panel, shelf and lights may now be finished. Last, the desired finish is applied to cabinet.

While construction of the photowagonette, as outlined above, is straightforward, it should only be undertaken by persons experienced in woodworking. There is a sizeable investment in lumber at today's prices, far too much to permit costly mistakes.

For the builder, a few final suggestions on points not covered in the drawings may be worth considering. Since the two large lower drawers are likely to be very heavy when filled, they could well be provided with heavy duty ball-bearing drawer slides. For the same reason, the rollers supporting the entire photowagonette should be of the heavy duty variety.

As a precautionary measure, the well which contains the developing trays should be lined several inches up with some stain and water resistant material, such as Formica.

#### Did You Know?

Continued from page 12

years ago, such as old newsreel shots, orthochromatic emulsions may serve the purpose nicely. Panchromatic film did not come into use much before 1925 here in Hollywood. Until then ortho film had been used in about 99% of the scenes. EUGENE LEE BURNER



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Continued from page 53

underexpose unintentionally in the brilliant tropical lighting. I took my pictures at all hours, when I could find my subjects. For landscapes I found soft evening light the best, because at other times the blue skies were terribly blue and everything was too vivid. Since I most often use a Contax I use this best and I can shoot fast. In the game of photographing unwilling subjects the technique is to look at the subject out of the corner of the eye; shoot, or pretend to shoot, and then swing around and shoot the subject. The Indians fall for the Rolleiflex dodge of looking one way and shooting another, using the Rolleiflex at waist height.

While photographing the Fiesta at San Miguel which lasts a few days, I heard of the shrine of Atotonilco nearby, which is visited the year 'round by "Penitentes" from all over Mexico. More pilgrims visit it than Lourdes, and vet so surrounded is it by secrecy. that few people outside the country know about it.

Obviously there was a great story here and it had never been photographed before. The priest at San Miguel made arrangements for me to attend on Friday, the day of the procession. At the shrine, which is reserved for women one week, men the next; the pilgrims arrive on Saturday, some having tramped in small bands for a thousand miles-from the borders of Guatemala in the south and even from as far north as Santa Fe. As they approach chanting prayers they cut briars with spikes an inch long and twist them into crowns to wear and suffer during their retreat. The thorns hurt if the pilgrim is jostled, but no one complains.

On Friday morning when I visited the shrine with Father Mercadillo, the great procession was about to begin. The life-size statue of the bleeding, woe-begone Christ is carried from the chapel into the Holy House. First comes a small boy's choir, then a band of wind instruments-a sax, clarinet, flute, trumpets-playing very mournful tunes. Incongruously, one of the tunes was "Down by the Old Mill Stream" played very, very slowly and mournfully. All during the procession bells clang incessantly.

The city of Guanajuato, a short distance away by car, is among the most beautiful in the whole world. Its great Spanish and French buildings stand decaying, a testimony to the one time great wealth of its silver mines. One

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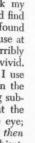
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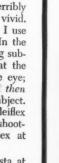


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might be in Spain several hundred years ago. The narrow streets with their great houses and quaint lamps suggest beautiful carriages with veiled women peeping out. There are many really great churches built by the Indians and their Spanish masters. This is the finest city in all Mexico, especially if you want to be transported back 200 years. Then if you want to return to the present just as suddenly, the latest movie is being shown at the magnificent opera house where now instead of bejewelled ladies, one sees empty boxes. Instead of Rossini and Mozart-Jane Russell and Hopalong Cassidy.

#### Rodin's Kiss

Continued from page 27

the other to the right of the camera and a 750-watt spot as the backlight formed the basis of the lighting.

Generally, I used a hard beam on the 1,500-watt spot at the left of the camera and a diffuser screen on the 1,500-watt spot at the right. The latter usually was above or near the top of the statue. The 750-watt spot was about % the height of the statue.

I also used a 500-watt baby spot to the left but close to the camera for accenting.

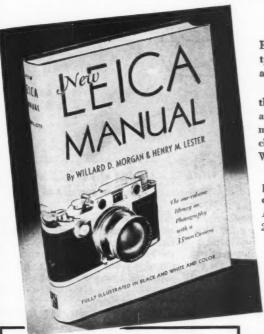
Sometimes it was necessary to reverse completely this set-up and put the high, strong spotlight on the left instead of the right. There were so many variations, however, that it is impossible to recall them.

Actually, it makes little difference to another photographer how the lights were placed, because no two photographers approach the same subject in the same manner. Placing the lights in position is not enough for a good picture. The photographer must know what he wants to do and then strive to achieve it.

For instance, a lot of time was spent in adjusting the tilt of the spotlight to put the hot spot where it would do the most good and in using the softer, outer-edge lighting for its special purpose. We also had to mask half or one-third of a half of a spotlight at times to put the light where it was needed. Such improvisations alter the approach of the individual photographer.

It was, of course, necessary to shoot the statue from various angles. One of the methods I devised was to start with the camera on top of the stand 15 feet high and work my way around the statue spiral fashion, gradually lowering the height of the camera. I obtained a consecutive series of pictures all with different perspective this way.

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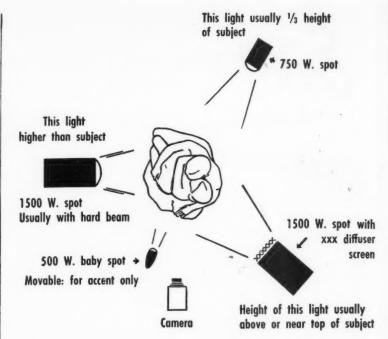
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on close-up technique with Kine Exakta. Exakta owners, mention model and serial number of your camera.

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This set was the basis for the repetitive picture shown on page 24. This shot actually was conceived after I had seen how the photographer wound his camera around statues in the movie The Titan. I visualized the effect of the repetition of the statue

from different perspectives and decided to strive for continuity. Prints from the negatives were made to size, the figures of the statue were cut out, pasted in position onto a sheet of black paper and a copy negative made.

Continued on page 86

# ess Than Ic A

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I believe that this assignment has been one of the most soul-satisfying jobs of my career as a photographer. When I saw my results, I realized that much of the terrific emotional impact of Rodin's masterpiece had been registered on my film. It has become an inspiration now (almost a mission) to try to take sculpture out of the plaster cast category and show what the artist really had in mind.

#### **Build a Permanent Darkroom**

Continued from page 38

If you are reluctant to tackle all of the carpentry, you can purchase knocked-down, unpainted units, built to your specifications by a cabinet maker or your favorite lumber man. Show him one of the illustrations in this article, indicate how much space is available, and roughly what the dimensions are. The lumber will be cut to length and can be assembled easily with a few nails and screws. An easy-to-read drawing will accompany the lumber.

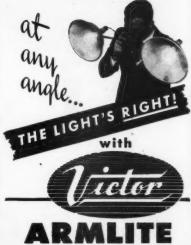
Counters should be about 36 inches high and 26 inches deep. Storage shelves above counters, except directly over the enlarger, should be about 60 inches up from the floor and about 9 inches deep.

Because water and processing solutions undoubtedly will be spilled in the vicinity of the sink, the wet counter should have a waterproof surface. A good-looking job can be made by covering the bench with linoleum carried up the back wall to the shelf to protect the wall from splashes and to eliminate the sharp, dust-catching corner at the rear of the bench. The linoleum can be fastened to the bench top by means of waterproof linoleum cement, and it should be tacked in place at the upper edge of the splash shield to relieve the strain on the cement applied to hold the linofeum against the vertical surface. The linoleum should get several coats of wax, rubbed thoroughly into the surface.

#### Sink Construction

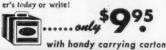
Since the sink is one of the most important fittings in the darkroom, careful consideration should be given to its design, placement, and construction. Ideally, it should be large enough to take at least three trays of the largest size normally used and deep enough to avoid any danger of solutions splashing over its sides onto workbenches or floors.

Enameled iron sinks are very satisfactory from the standpoint of both cost and durability. The largest standard sizes made are quite adequate for normal black-and-white processing. If



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Alberene stone, soapstone, Monel metal, and the 18-8 stainless steels are very durable but expensive. Lead-lined wood is very durable, provided the joints are lead burned rather than soldered. Most of these sinks in large sizes are too expensive or too difficult to fabricate for the average amateur.

Heavy sheet iron protected with a chemical resistant coating is fairly inexpensive and is satisfactory if the protective coating is renewed periodically as soon as it shows any signs of chipping off or wearing thin.

About the easiest type of sink for the amateur to build is one made of wood. Cypress is generally preferred because of its resistance to rotting. Rabbeted joints should be used, and the sides of the sink should be held in position by steel tie rods. Such a sink will last indefinitely. It will require frequent scrubbing to remove the growth of slime which tends to accumulate, particularly during warm weather. This growth can be avoided by treating the interior with several coats of a good preservative paint or with a layer of "oxygenated" asphalt.

Any sink not made of wood should have a wooden platform in the bottom. Few bottles will break when dropped on wood. Most platforms are made of slats fastened to two cross pieces, and lumber 1 inch in thickness is commonly used. The platform should be made in several sections, to facilitate easy removal for cleaning the sink.

The height of the faucets is very important. The lower surface of the bib should be 16 inches above the level of the platform in the sink. This clearance provides space for filling gallon bottles. Hot and cold water should be piped through a mixing valve, such as that used on the ordinary kitchen sink, and at least one extra cold water outlet should be available.

#### Ventilation

In order to maintain healthful working conditions and avoid damage to the sensitive materials in the darkroom, adequate ventilation is necessary. Special provisions must be made for this, since the usual openings are closed when the darkroom is in use. All ventilating openings must be light trapped; this increases the resistance to air circulation, making some type of blower or fan necessary to force the air in or out of the darkroom.

The exhaust openings should be located near the ceiling. You will have less vibration if you mount the fan or blower on a board nailed to the overhead joists. The connection through

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the wall should be made with sponge rubber padding.

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#### Darkroom Equipment

The amount of equipment you will

have in your darkroom depends on the type of work you intend to do and how fat your pocket book is. The list on the left below includes all of the necessary items for quality work. The additional equipment can be added at any time. For printing and enlarging, the minimum equipment listed is in addition to that listed for film development,

#### Film Development

Minimum Equipment Developing trays (3) Timer Thermometer Measuring vessel Film clips Stirring paddle Wastebasket Overhead wire with spring-clip clothes pins for drying films

Funnel

Minimum Equipment Printing frame Large washing tray

Minimum Equipment

Enlarger Large trays (3)

Other Useful Equipment Printer Trimmer Ferrotype plates Print roller or squeegee

Photo blotter roll

Other Useful Equipment

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#### Coffee Break with the Editors

Continued from page 8

Home Journal was kidding in the July Coffee Break item where he mentioned going right out on location with a photographer to hold extension lights



... as the hammer fell

and play pack-horse in general on all kinds of assignments for the sake of getting the right pictures for an article. Actually he wasn't kidding a bit. To prove this point, Photographer Joe Munroe recently turned a probing lens on Managing Editor Grant Cannon of Farm Quarterly magazine. Covering a slaughter house assignment, Munroe snapped a picture of Cannon at the instant a beef cow was stunned with a sledge hammer as a part of the slaughter house procedure. The look on the M. E.'s face, plus his stance in general, gives the impression that pictures were the last thing he had in mind at the moment. Understandably.

#### 1949-50 Modern Index

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#### **Amateur Report**

Continued from page 15

taken with this arrangement. It was very simple to set up, except, that is, for the rule that the more models, the greater the difficulty of finding a camera position in which all wires and shadows will be hidden.

In such group photos it is also very necessary to check the depth of field of your camera, focusing somewhere about the middle of the area you want to use; say from the middle of the table to the wall. Before you spend a lot of time arranging models, often it is worthwhile to make a test shot to see what depth you can count on being in focus.

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With scenes of planes on the ground it is advisable to select a very low camera angle, to give the impression of having taken the shot from the eye level of a man on the ground. In addition, the camera should be far enough back so that sufficient ground is in focus in front of the models. Some of the foreground, nearer the lens, may be blurred, and that will have to be cropped.

Various ground scenes, such as crashes or hanger interiors, may be staged; and in the air, formations, dogfights, bombing. When you first begin to think of your hobby in terms of photography, you realize that your camera really is a jack-of-all-trades.

### 1 Tried It Myself

Continued from page 54

of only a decade ago. Modern's editors agree whole-heartedly. It is a pleasure to reproduce on these pages some of the outstanding work of amateurs who have been inspired by the articles and pictures appearing in Modern. If you have a picture you feel might be of interest to others, why not send it in with a few words about the particular article that inspired it - and your experiences in making it? Each picture accepted will be paid for at our regular rates, but unaccepted pictures cannot be returned unless accompanied by a selfaddressed, stamped envelope. All pictures and accompanying technical data should be addressed to: Columns Editor, Modern Photography, 251 Fourth Ave., New York 10, N. Y.

## Hollywood and Vine

Continued from page 18

Kochno. Back in Santa Monica with a wealth of material, Mrs. Homolka plans to organize her pictures of the Continent into a book. Top painters, poets, and actors in France and Italy faced her lenses, and many California photographers envy her opportunity to capture Europe on their own films.

Nine West Coast photographers were represented recently in an exhibition of "Creative Photography" held at the Forsyte Gallery on L. A.'s Beverly Blvd. Jack Tiffany and Leonard Nadel (chief photographer for the L. A. Housing Authority) stood out with strong people pictures. Florence Homolka (see above) showed some of her unusual grab shots from Europe. Harry Tepker, Bernice Kolka, Keith Wright, Fred Swartz, Stan Raymond and your correspondent completed the group.

LOU JACOBS, JR.

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Sleight of Hand

Continued from page 29

and any corrective dodging is completed, each corner area in turn is given additional exposure to darken it slightly. It is a subtle effect that you want, so take care not to over-do. And, of course, as in all dodging, keep the shadow area in constan' motion to avoid leaving traces of your handiwork. You will find a careful job will work wonders in sharpening the emphasis in your pictures and eliminating distracting elements.

## **Improve Color Slides**

Continued from page 35

elbows on the knees. But for consistent sharpness in shooting color slides, there's nothing better than an easy-adjusting tripod with a quick action tilt and pan head.

This is especially important when using long-focus lenses. Not only is the camera physically unbalanced with the added weight and leverage in front, but the relative magnification of the image increases the effect of any camera movement.

Even for small cameras a tripod should be sturdy and of medium weight. (A flimsy tripod is worse than none at all because you think you're safe. Remember, the light weight of small cameras means less of a steadying leverage is working against the legs.) Because a tremendous potential advantage of the small camera is the great freedom and mobility it gives the photographer; so the tripod should be able to quickly extend and collapse, and be easily and positively locked into position.

The two-section wooden tripods with simple sliding leg extensions are often the fastest to use. The currently popular metal tubular units are very steady, but slower in operation. For low angle shots the neat "table-top" models of a few inches in height can be a life-saver, and fold to toss into any gadget bag.

The tilt-pan head is also important in this combination. The heavy-duty, ball-socket type seems to be a bit faster and more flexible for small, lightweight cameras. With them there is no long lever to poke the Adams apple when you get your face in close to a rangefinder that's only a couple of inches from the top of the tilt-pan head. In shifting position with this type, care must be taken that the camera doesn't flop forward and bang up the lens barrel. It's a two-hand opera-

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Mention reflectors and one usually thinks of cumbersome frameworks of tinfoil or white sheeting. If available these are very efficient, but many materials can be found near at hand that will serve the purpose.

The sky itself often contains reflectors in the form of white clouds. Try jockeying your camera-subject position so that a fat cumulus cloud is on the shadow side of your subject on a sunny day; then take meter readings of the shadows with and without the cloud working for you.

Large cement areas, a sheet of newspaper, white clapboard siding, a light-toned billboard, a white shirt, a piece of discarded movie screen: all make workable reflectors.

There are two precautions on the use of reflectors. The uncontrolled use of tinfoil, chrome metal, or similar materials will sometimes reflect too much light and the shadows will be "washed out." A difference of one to two "f" stops between highlights and shadow is usually correct for color slides, and especially medium and closeup shots of people.

Any color in the reflector will record on the film. This may be used intentionally for a pleasant result, but it usually comes as a rude surprise in the processed transparency. We have trained our eye to tend to see the color of objects rather than the color of the light falling on those objects. The "warm" color in the shadow areas of the two 35mm shots of the girl is coming from the smooth red-colored cement floor of the open porch on which these shots were made.

Try these three ideas on your color shooting. You may find that your color slide projecting will become an exciting experience.

#### **Photo Markets**

Continued from page 22

judging. Entries should be sent to the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.

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## Flop-Over Print Drier

Continued from page 60

seam at the ends to form a tube for the rods. The canvas is fixed at one end and spring-loaded at the other by two small coil springs. Open the end loops of the springs with pliers and slide them over the rods to the proper position. The spring loops should then be soldered or brazed to the tubes, except for one end to permit the canvas to be installed or removed. The "feet' which support the drier in the vertical position are short sections of rubber hose forced over wood screws set in the side panel.

This completes the drier, except for painting. A heat-resisting paint is preferable, but not absolutely necessary, since the outer surfaces do not become excessively hot. The metal rods should

not be painted.

In use, the drier may be placed flat on the table, as for loading, or vertical as in storage. If placed flat, the top pictures will dry first, permitting an almost constant unload-load cycle. you are drying only one set of prints you may stand the drier vertically, when drying speed will be equal on both sides. The use of a flexilizer and glossing medium is recommended, and will produce high-gloss pictures which lie absolutely flat.

#### Part-Time Darkroom

Continued from page 49

course, can be done at any time. If it happens that both film and paper show evidence of fogging, light-tightness definitely must be improved before such a "darkroom" can be used.

2-The room temperature should be kept as constant as possible between 68 and 72° F. Otherwise, temperatures of solutions must be raised or lowered artificially, and evenly maintained which is not only a nuisance, but rather difficult. In consideration of this, an ordinary room is usually preferable to an attic or basement where adequate temperature is apt to be more difficult to obtain. Anyone who actually needs a waterproof floor must be such a sloppy worker that he will have little chance of becoming a good darkroom technician.

3-An electric outlet should be available to supply current for the operation of safelight, enlarger, printer, and dryer. If an outlet is not present, an extension cord from the nearest available outside the darkroom must

4—The color of the walls should be light so that as much light as possible is reflected. Since no harmful light is



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the safelight can be reflected. To allow "safe" light to be absorbed by dark walls is a waste based on misconception and prejudice. To critically and accurately judge the tone-value of a print one needs all the light that it is possible to have.

5-Running water is desirable but not necessary. Built-in sinks are the height of luxury. I use water from the near-by bathroom, and wash negatives and prints in the tub. In the darkroom, several layers of newspaper placed beneath the traps effectively absorb occasionally spilled solutions. A careful worker, however, does not need to spill a drop, mainly because he does not fill his trays and vessels too full.

#### Darkroom organization

Successful operation of any darkroom depends upon effective separation of "dry" and "wet" operations. Consequently, the first step in equipping a darkroom should be the creation of a "dry zone" and a "wet zone." Ranging from left to right, on the dry side one should have negatives, sensitized paper, contact printer, and enlarger; on the wet side, tanks and trays containing developer, hypo, and water. This is the only way in which the different steps in processing may progress in uninterrupted succession, and negatives and paper stock-the most valuable and vulnerable objects in the darkroom-may remain beyond the reach of accidentally splashed solutions.

#### Darkroom equipment

Only the following basic pieces of equipment are really necessary to a workable darkroom:

Safelight - red for ortho-film development; dark green for quick check-ups on pan-film development; green-yellow for printing. Safelights with interchangeable filters are best. Colored lightbulbs are usually far from 'safe." To check any safelight perform the test recommended earlier in connection with stray light. (See Photo Data, page 69, this issue—Ed.)

The three T's-As far as the technical quality of darkroom work is concerned, the most important pieces of equipment are the timer, the ther-mometer, and the towel. The most efficient way to develop negatives is to use the "time and temperature method" the only method that can be used to consistently produce negatives of scientifically pre-determined gradation. A towel is the first requisite for darkroom cleanliness (which includes dry hands!) without which immaculate work is impossible.

Film developing tank - daylight loading tanks are available for certain roll film sizes and are recommended

# Again! it's

for use in darkrooms that are not sufficiently dark to permit negative development during the day.

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Viscose sponge-to clean negatives of dust and emulsion particles before drying.

Film clips-to hang negatives to dry. Stainless steel is best.

Trays-for print processing. One for each-developer, acid fixer, and water. Use of acid fixer eliminates the necessity for a special short-stop bath.

Print tongs-to agitate prints in developer and hypo and to transfer prints from one solution to the next. The use of black tongs for developing, and white tongs for fixing eliminates the possibility of confusion and consequent contamination of developer by hypo. A capable darkroom worker seldom allows his hands to become wet and thus eliminates one source of making spots on prints.

Printing frame-it serves the same purpose as a special contact printer but it is much less expensive (and

takes less space!).

Enlarger—the most important piece of darkroom equipment for creative camera work. Automatic focusing has no influence whatsoever on print quality, but a tilting negative carrier is invaluable for the correction of perspective distortion and considerably increases the scope of an enlarger.

Print washer-your largest tray. A better method is to use a deep tank in which the prints may float vertically, suspended on cork clips. Any tinsmith will build such a tank.

Electric print dryer — eliminates buckled and curly prints and helps to turn out "professional-looking" photographs that are flat.

Sensitized paper, film- and print developer, acid fixer.

#### Darkroom operation

The best way to learn the fundamentals of negative and print processing is to study these processes as outlined in any competent book on photography, and to apply such information through exhaustive tests and experiments. However, as soon as a photographer establishes a practical routine which results from his initial basic tests, he should not abandon it and turn from one method to another and one type of material to the next. He should concentrate upon learning as much as possible about the par-



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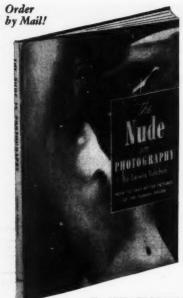
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ticular type of film, paper, developer, fixer, which he has adopted and which he found to be best suited to his kind of work and way of working. Only by so doing will he be able to completely master the technical side of his craft, for the eternal "tester" who must try everything he reads or hears about, will never get beyond the stage of a fumbling tyro.

With time and experience, each photographer develops certain methods and short-cuts of which textbooks told him little or nothing. In order to save the reader time and perhaps costly experience, I list below several suggestions and devices which I have found to be helpful.

Accidentally spilled hypo should immediately be wiped up. If not, it will dry, the tiny crystals will be carried by air currents and drafts to negatives and sensitized paper and produce tiny indelible spots.

To warm or cool solutions to the desired temperature, fill a jar or can of fitting size with hot water or cracked ice, respectively, and dip it into the solution until the proper temperature is reached. Film developer can be cooled or warmed before use as shown

The best medium for cleaning greasy and fingermarked negatives is to use a cotton tuft soaked in carbon tetrachloride, a small bottle of which should be kept in every darkroom.

Hair-like scratches and abrasion marks on negatives can be prevented from printing by using a cotton tuft to apply an almost imperceptible film of pure vaseline upon the negative. The vaseline does not harm the negative and therefore can remain indefinitely.

Before placing negatives in the enlarger, they should be thoroughly cleaned. Use a camel's hair brush to remove specks of dust, carbon tetrachloride to eliminate fingermarks, and vaseline to fill in scratches and abrasion marks. A few minutes spent cleaning negatives will often save hours of tiresome "spotting." And furthermore, the most carefully "spotted" print never looks quite as clean as that which required no spotting.

A two-way foot switch for the operation of an enlarger is a practical device which saves a great deal of time. Connect it in such a way that the safelight will be automatically turned off the moment the enlarger light goes on.

Circular pieces of cardboard in varying sizes attached to heavy wires make handy dodgers, and are invaluable during enlarging for holding back parts of the negative that would otherwise print too dark. Conversely, a piece of cardboard with a hole in it





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makes a handy gadget for "burning in" highlights that would otherwise print too light.

Many prints that are too dark in certain parts can be saved through local reduction by applying ferricyanide solution ("Farmer's reducer") with a cotton tuft to the particular areas. Ferricyanide works very quickly and care must be taken not to carry reduction too far.

No matter how humble it may be, once a serious photographer has established his own darkrooom, he will never want to go back again to the old "convenient" days of the drugstore stage. And anyone who has experienced the joyous feeling of personal achievement that comes with successfully developing a film or satisfactorily finishing a print, will discover that the possession of a darkroom not only advances tremendously the quality of his work, but also increases the fun he gets out of photography.

#### 36X Bazooka

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LIFORNIA

Continued from page 57

attached my camera tripod to the camera, re-shifted the support point of the telescope and tried to focus using both supports for the equipment. First I found the approximate frame for the picture; then when I adjusted the sharpness of the focus the framing went off slightly, but the adjustments proceeded in decreasing increments and finally satisfactory focus and framing were obtained.

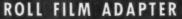
But now the time had come for vacation and an actual trial. The added equipment as then constituted, weighed about 35 lbs. and was so bulky it had to be carried in a car.

At Artist's Point, our first view was a glance at the glorious Falls, the second for an osprey's nest. We located two on our side of the canyon about a half mile away as usual.

We drove back to the far out-ofthe-way end of the parking space, clambered over the wall separating us from the canyon, and spotted the nests again, about a city block away now. Through the 4" viewfinder, we determined which nest had the most apparent activity. It was high noon, the light was good.

We hurried back to the car and carried the auxiliary equipment to location. It was soon set up and the process of focusing and framing was eventually completed. The aerie, through the focuser, showed a parent bird, a nestling and an unhatched egg. The other parent brought a fresh fish about every 20 minutes. We waited out one cycle to note just what was happening. Then we were all set.





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I removed the focuser preparatory to action, but it released with some difficulty and I jarred the setup a few thousandths of an inch. So I had to replace it and refocus. Meanwhile the provider brought in another fish and we had to wait for the next cycle. I was more careful in extracting the focuser this time and got the magazine in without disturbing anything. This time, however, the provider didn't return in the usual 20 minutes. We waited a full hour. It was getting close to 4 o'clock and I began to worry about the light. Then he came!

As he neared the nest, I pushed the button. Now we couldn't use the 4" viewfinder because the telescope shut out the view. We shot blind, but kept on shooting, winding, and shooting. Finally the old bird left and we relaxed. Then we repeated on the next cycle but the light was fading down in the canvon.

I guess we were more surprised and pleased than anybody at the good results. The performance of the birds was as if they had put on a rehearsed show for us. We got the forager "braking" with his wings as he alighted. Junior stretched his ungainly legs and stubby wings as he toddled over for his eats, and Papa tore off bits of trout to feed to him.

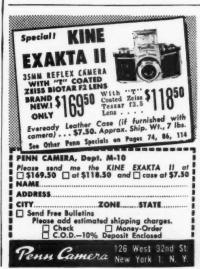
From a technical viewpoint, the scheme is simple, as outlined in the first paragraphs of this article. The optical system and the mounting link between telescope and camera are shown in the drawing on page 57: these figures have self explanatory notations.

The important thing is the technique of operation. Extreme care must be taken to insure again any vibration. This will be appreciated when one considers the demands for successful operation of even a 4" lens-for a 36" lens, just multiply by 9! In this case the entire frame is only 1° of arc wide and %° of arc high. A great surprise was that one sequence shot at 16 frames per second (slowest speed on my camera) was only about 1 stop overexposed, even at F:12.

After my first year's experience with the "Bazooka," I added an 8-power sighting scope to permit quicker framing and also to let me see what goes on while I'm shooting pictures. This was easily made from parts of a \$5.00 war surplus periscope. Also the tripod support for the camera I replaced with a bi-pod. This has a rack and pinion lateral adjustment and a screw vertical adjustment so that relatively wide latitude in framing is possible without moving the legs and necessitating readjustment of focus.







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# last word

letters to the editor

Beware The Bull'seye Sirs:

Page by page, Modern is my buy because your color pages are out of this world. "Against The Light" in the August issue is top-notch, but I'd like to add that when focusing into the sun, one should be very careful. It takes only a second for the lens to concentrate sun-rays so as to burn a hole in a cloth focal-plane shutter. For the life of me I can't think of a sure-fire remedy for this except to use plenty of caution -or not use a focal plane camera at all on such shots.

Carlisle, Pa.

F. D. HOOKS

· Right you are about the sun rays and the cloth focal-plane shutters. See the item about salonist Axel Bahnsen's experience in this month's Coffee Break column.-Ed.

### Shocking!

Plenty of people who call the Bikini beach costumes "shocking" forget that in every era there were those who



thought the current costumes shocking. Having reached the age of seventy, I can look back through my files and find numerous examples to prove my point. Here, for instance, are a couple of glamour girls photographed in "shocking" costumes at Scarborough, England-vintage1910.

CLARENCE PONTING Pangbourne, Berks, England

#### Discovered His Wife

As a photographer for a metal producing plant, I am used to making pictures of the grain structure of metal or of broken machines, but of glamournever. Reading Modern a couple of Sundays ago, I had a notion I'd like to do some glamour stuff like Gowland, Jacobs, Boardman, and the rest of

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Modern's authors. Remembering one recent article about a possible model being the girl next door, I decided that one's wife might also be a good prospect. Help with the dishes was her modeling fee, but in return she willingly walked a mile and a half to a farm where I obtained permission to shoot. Hours later, arriving home, she insisted upon developing the negs im-

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mediately. Enclosed is one of the results which will, I hope, disprove her feeling that she is neither photogenic nor glamorous. One thing is already certain-it was fun!

Huntington, W. Va. C. R. STEWART

#### Now He Tilts

Sirs:

Thanks to Mr. Feininger's article on "Swings And Tilts" (August issue), I now have a better understanding of how to use my Linhof Technika. The ideas for interchangeable lenses and the adjustable lens shade were all new to me, and solved my problems perfectly.

Avaline, Calif.

HAROLD GIRTON

### Water Skis For New York

Sirs:

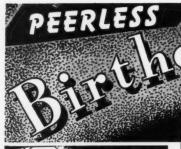
Some of my amateur friends were surprised to learn that I read the same magazine they have chosen, but I can honestly say that a great many articles in Modern interest me very much, and I gain dozens of pointers from them that I can put to professional use. "Water Level Action" in the August issue, for example, has given me an idea worth trying up north where water sports aren't so common. My only hope is that I'm not the one who winds up in the brine as the result.

Scotia, N. Y.











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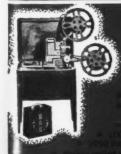


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